

STANDARDS DEVELOPMENT BRANCH OMGE



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1983-1984

BUSINESS PLANS
AND
BUDGETARY IMPLICATIONS

JUNE, 1983

HAZARDOUS CONTAMINANTS
AND STANDARDS BRANCH
135 ST. CLAIR AVENUE E.
TORONTO, ONTARIO M5V 1A3



Ontario

Ministry
of the
Environment

Hon. Keith C. Norton, Q.C.,
Minister

Gérard J. M. Raymond,
Deputy Minister

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MINISTRY OF THE ENVIRONMENT

1983 - 1984

BUSINESS PLANS

AND

BUDGETARY IMPLICATIONS

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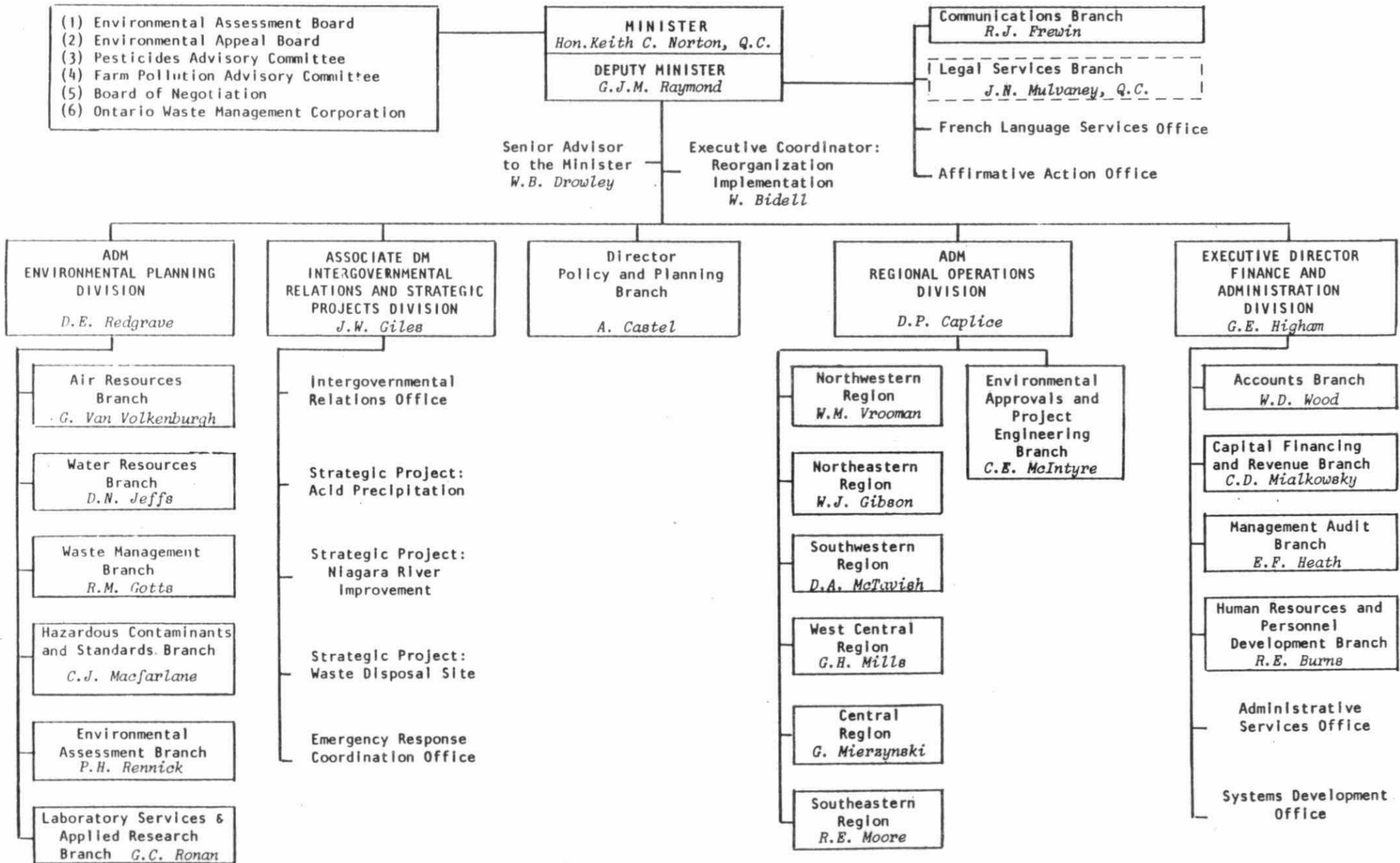
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MINISTRY OF THE ENVIRONMENT



MINISTRY OF THE ENVIRONMENT

ORGANIZATIONAL ROLES

ENVIRONMENTAL PLANNING DIVISION	INTERGOVERNMENTAL RELATIONS AND STRATEGIC PROJECTS DIVISION	POLICY AND PLANNING BRANCH	REGIONAL OPERATIONS DIVISION	FINANCE AND ADMINISTRATION DIVISION
<p>To develop plans and programs</p> <ul style="list-style-type: none"> - to protect air quality, - to protect surface and ground water quality and quantity, - to manage wastes, - to ensure an adequate quality of drinking water. <p>To provide scientific advice on and monitoring of the environment.</p> <p>To promote the consideration of the environment in the planning and development of undertakings.</p>	<p>To coordinate the Ministry's approach to designated critical issues and orchestrate its intergovernmental activities.</p>	<p>To evaluate the Ministry's policies, programs, and resource needs and to coordinate the effective management and efficient utilization of Ministry resources.</p>	<p>To deliver programs</p> <ul style="list-style-type: none"> - to protect air quality, - to protect surface and ground water quality and quantity, - to manage the disposal of wastes, - to ensure an adequate quality of drinking water, and - to control the use of pesticides. 	<p>To provide financial, administrative and personnel support and development services for the Ministry's programs and to ensure compliance with the Ontario Financial and Administrative Manuals.</p>



Ontario

Ministry of the Environment

REGIONS AND OFFICES IN ONTARIO

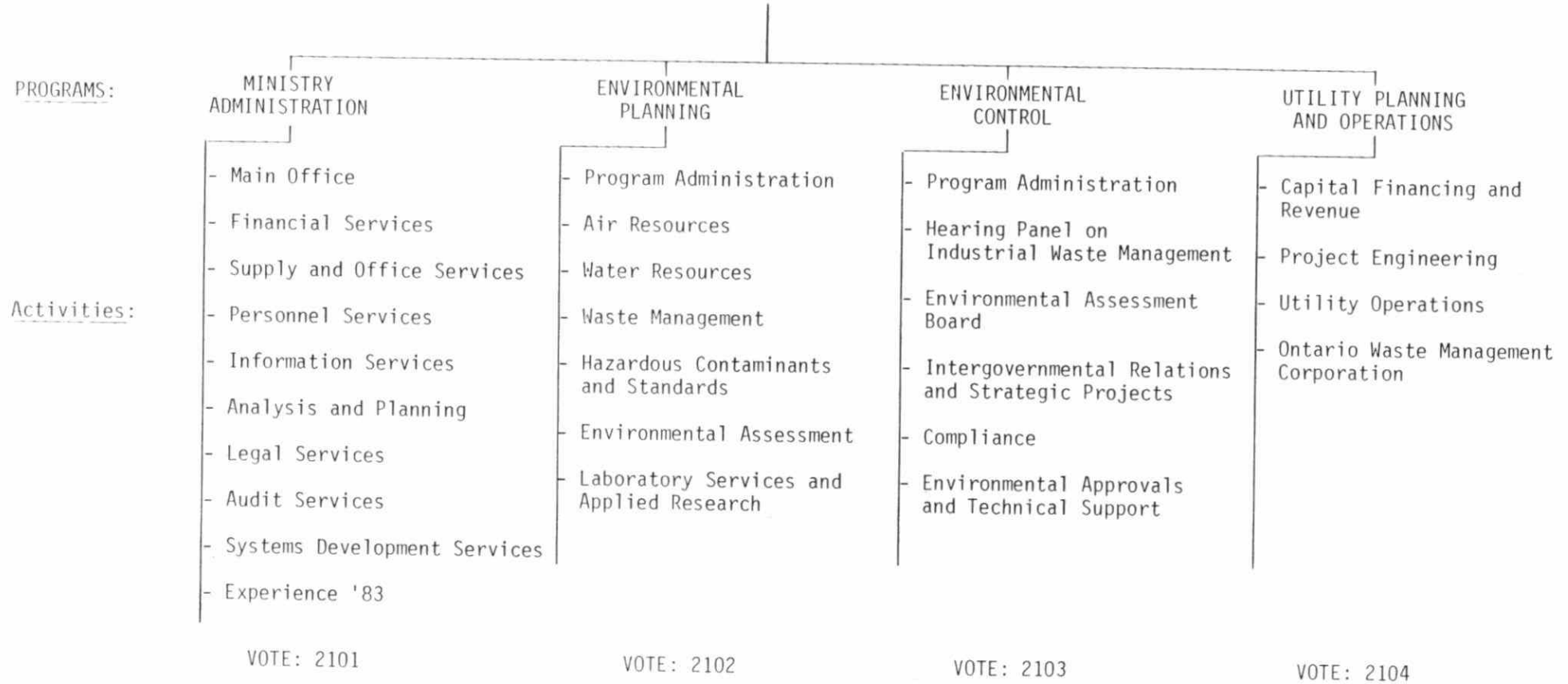
- Regional Offices
- District Offices



MINISTRY OF THE ENVIRONMENT
PROGRAM AND ACTIVITY STRUCTURE

MINISTRY MANDATE: To be the Provincial presence in the area of environmental protection, with the responsibility for achieving objectives for environmental quality while supporting the economic development goals of the Province.

MINISTRY GOAL: To achieve and maintain a quality of the environment - including air, water and land - that will protect human health and the ecosystem and will contribute to the well-being of the people of Ontario.



MINISTRY ADMINISTRATION PROGRAM

VOTE 2101

VOTE 2101

MINISTRY ADMINISTRATION PROGRAM

This program provides financial, administrative, corporate policy, planning and coordination of research as well as analytical services, personnel support and systems development. Legal and communication services are also included within this program.

Program Funding: (\$000's)

	<u>BUDGETS</u> (\$ 000's)			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
Ministry Administration Program	10,139.6	10,730.2	13,395.7	191	197	201

VOTE 2101

Item 01:

MAIN OFFICE

A. ACTIVITY OBJECTIVES:

1. To provide for the overall management of the Ministry, broad policy formulation and the implementation of Legislation pertaining to the Ministry.

2. To develop the Financial and Administrative Management Policies of the Ministry.

The Main Office is comprised of:

- (1) Office of the Minister.
- (2) Office of the Deputy Minister.
- (3) Executive Director, Finance and Administration.
- (4) French Language Coordinator.
- (5) Affirmative Action Office.
- (6) Executive Coordinator, Reorganization.
- (7) Senior Advisor to the Minister.

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

	<u>BUDGETS</u>			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
Main Office	902.1	936.5	1,085.5	16	16	16

C. MAJOR ACCOMPLISHMENTS:

1981-82

French Language
Services Office

- . 78 positions were identified and designated as requiring bilingual capability;
- . Central fund of \$20,000. was established to provide French language training for 43 Ministry staff members;
- . Ministry participated in Renseignements-Ontario, a series of tours aimed at promoting the availability of environmental services in French;
- . Environmental educational materials for teachers at both elementary and secondary school levels were published in French.

1982-83

- . Environmental Assessment Board developed and implemented a policy on French language services ensuring bilingual public hearings;
- . Recruitment of bilingual personnel by the Communications Branch (Bilingual Receptionist/Bilingual Librarian) and the Welland District Office (Environmental Officer), thus improving substantially the delivery of services in French;
- . Central fund in the amount of \$20,000. continued to provide French language training for 46 Ministry staff members;
- . Lexicon on environmental terminology was developed to assist Ministry staff in providing services in French;
- . Review of existing forms and documents was completed in view of establishing a priority list of 133 forms and documents to be translated;
- . Environmental Explorations Program was conducted in French promoting environmental studies to 29 French-language schools, 8 children camps and 3 provincial parks.

1981-82

Affirmative
Action Office

- . Career development centre held October, 1981 designed to identify female employees in the Ministry who have potential for entry level management.
- . Information sessions held with both women employees and managers.
- . Counselling with women employees.
- . Newsletter published twice yearly.

1982-83

- . Second career development centre held for six men and six women in the Environmental Technician, Scientist, Resources Management Classification in March 1983.
- . Presentation skills workshop developed and presented in May 1982.
- . In depth analysis by Branch/Region done to prepare Branch/Regional workplans with goals/targets as part of Environment MBR process.
- . Information sessions with both women employees and managers continued.
- . Continued counselling with women employees.
- . Newsletter published twice yearly.

<u>Priority Hire/ Promotion Targets</u>	<u>1981-82</u>		<u>1982-83</u>	
	<u>PLANNED</u>	<u>ACTUAL</u>	<u>PLANNED</u>	<u>ACTUAL</u>
A) Technical Specialities	3	1	2	2
B) Professional Specialities	8	5	4	6
Accelerated Career Development Initiatives	11	25	11	29

D. EXPECTED ACHIEVEMENTS:

1983-84

French Language
Services Office

- . Revised policy on French language services to reflect recent Cabinet Decisions and incorporate administrative procedures.
- . Development of a proficiency test to be used in the screening of applicants for designated bilingual positions;
- . Allocation of \$6,850 to facilitate the conversion of designated forms and documents into French;
- . Development of a bilingual communications capacity (Communications Branch) to develop and implement French-language communications and media relations programs.

Affirmative Action
Office

- . Preparation of a slide presentation to outline the philosophy on Affirmative Action and to profile women in non-traditional jobs and women participating in career development assignments in Environment Ontario.
- . This will be an update/sequel to the film and booklet "Women in the Environment".

VOTE 2101

Item 02:

FINANCIAL SERVICES ACTIVITY

A. ACTIVITY ROLE AND OBJECTIVES

ROLE:

To provide financial support services to the Ministry.

OBJECTIVES:

1. To maintain the Ministry's financial information system.
2. To maintain financial controls on operating expenditures and to process the related documents.
3. To support the multi-ministry computerized financial information system.
4. To ensure compliance with the Ontario Government financial policies and procedures.

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

ACCOUNTS BRANCH

<u>SECTIONS</u>	<u>BUDGETS (\$000's)</u>			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
1.0 Office of the Director	80.3	93.0	90.0	2	2	2
2.0 COBIS Development & Support	100.0	114.0	117.0	2	2	2
3.0 Accounts Payable	472.4	441.0	474.5	19	20	19
4.0 Financial Reporting & control Services	<u>388.5</u>	<u>448.5</u>	<u>500.0</u>	<u>15</u>	<u>16</u>	<u>16</u>
TOTALS	<u>1,041.2</u>	<u>1,096.5</u>	<u>1,181.5</u>	<u>38</u>	<u>40</u>	<u>39</u>

C. MAJOR ACCOMPLISHMENTS:

1981-82

- . Payment process and related capture of financial data converted from manual input system to CRT terminals.
- . CRT terminals reduces processing time and eliminated outside keypunching.
- . Automation of the Accountable Warrant System.
- . Automated Accountable Warrant Sub-System reduces errors, provides more detailed expense information, and enables improved management efficiency.

1982-83

- . Enhancement of Ministry's financial system providing electronic filing of the Ministry's vendor files.
- . Automation of the Bank Reconciliation System for the Accountable Warrant Bank.
- . Development of an automated system to facilitate the reconciliation of Ministry accounts and those of the Central Accounts maintained by the Ministry of Treasury and Economics.
- . Improvements in a number of computer programs to make them more informative.
- . Pilot runs of the revised Fixed Assets System were successfully implemented in the Thunder Bay and Sudbury Regional Offices.
- . Design of a computerized Forecasting System and Executive Reporting package.
- . During extensive Ministry reorganization monthly financial statements remained up-to-date.

D. EXPECTED ACHIEVEMENTS:

1983-84

- . Implementation of the Executive Reporting package for senior management and the new computerized Forecasting System pending staff additions.
- . Enhancements to the Financial Information System including a new computer generated budget report; improved selected vendor report; provision for changes in the processing of employee advance transactions; and, provision of a computer system to facilitate the distribution of telephone charges.

VOTE 2101

Item 03:

SUPPLY AND OFFICE SERVICES ACTIVITY

A. ACTIVITY ROLE AND OBJECTIVES

ROLE:

To provide administrative support services to the Ministry.

OBJECTIVES:

1. To ensure the provision of adequate accommodation for Ministry staff and programs in accordance with Management Board directives. (Manual of Administration, 1, 30-3, -4, -7, -8, -9, 40-5, 60-3, 65-10).
2. To provide reproduction services to Ministry clients in the most economical and efficient manner. (Manual of Administration, 1, 40-6, 65-2).
3. To provide mail messenger, insurance liaison, procedures manual, stockroom and telecommunications services to Ministry clients.
4. To develop a system to establish and administer a Records Management program in conformity with Management Board directives and guidelines. (Manual of Administration, 1, 45-2, 55-2, -3, -4, -5, -6, -7).
5. To promote fair supplier competition to obtain maximum value and services for monies expended according to Management Board directives. (Manual of Administration, 1, 35-4, -5, -6, -7).

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

ADMINISTRATIVE SERVICES OFFICE

<u>SECTIONS</u>	<u>BUDGETS (\$000's)</u>			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
1.0 Office Services	906.4	838.0	1,044.5	21	21	21
2.0 Purchasing	<u>239.0</u>	<u>263.0</u>	<u>290.0</u>	<u>11</u>	<u>11</u>	<u>11</u>
TOTALS	<u>1,145.4</u>	<u>1,101.0</u>	<u>1,334.5</u>	<u>32</u>	<u>32</u>	<u>32</u>

C. MAJOR ACCOMPLISHMENTS

1981-82

1982-83

Activities

- | | | |
|---------------------------|---|---|
| a. Accommodation | <ul style="list-style-type: none">. Provided adequate accommodation for staff of Ministry.. Assisted in setting up the Ontario Waste Management Corporation and Hearing Panel on Industrial Waste Facilities in office accommodation. | <ul style="list-style-type: none">. Relocated Minister's office to the 15th floor and consolidated Deputy Minister's staff on the 14th floor. |
| b. Printing | <ul style="list-style-type: none">. 3600 jobs for \$535,000 in-house and outside. | <ul style="list-style-type: none">. 3600 jobs for \$600,000 in-house and outside. |
| c. Administrative Support | <ul style="list-style-type: none">. Handled 1,100,000 pieces of incoming, 570,000 pieces of outgoing mail and 490 special deliveries.. Processed Insurance information on motor vehicle accidents and incidents to MTC and MGS;. Revised Policy and Procedures Manual, as required. | <ul style="list-style-type: none">. Handled 1,200,000 pieces of incoming, 570,000 pieces of outgoing mail and 400 special deliveries.. Processed Insurance information on motor vehicle accidents and incidents to MTC and MGS;. Revised Policy and Procedures Manual, as required. |

1981-82

1982-83

Activities - continued

d. Records Management

- . Increased efficiency of regional forms pool with a cost benefit of \$420,000;
- . Developed and implemented complex subject numeric filing systems in Regions and Branches.

- . Increased efficiency of forms program achieving a cost benefit of \$66,000;
- . Converted 50% of identified forms to bilingual or separate French/English format;
- . Streamlined forms history files and numeric log for design and development of a comprehensive data base;
- . Instituted word/information processing consulting services.
- . Streamlined records, files and control system for the design and development of a comprehensive data base.

e. Purchasing

- . 8100 purchase orders issued for \$34 million of equipment, supplies and services.

- . 8400 purchase orders issued for \$34 million of equipment, supplies and services.

D. EXPECTED ACHIEVEMENTS

1983-84

Activities

a. Accommodation:

- . To relocate and consolidate all Reorganized Head Office Branches.
- . To prepare Ministry plan for 10% Space Reduction in compliance with Management Board policy.

b. Printing:

- . To continue to provide printing services processing around 4,000 jobs at a cost of around \$600,000.

c. Administrative Support:

- . To continue to provide mail messenger, insurance liaison, policy and procedures manual and stockroom services to the Ministry.
- . To design, develop and maintain a comprehensive data base for programs of the Office of Administrative Services on updated word processing equipment.

d. Records Management:

- . To design, develop and maintain a comprehensive data base for 600 record schedules.
- . To attain the disposition target of 2400 cu. ft. of records for a cost benefit of \$53,000.

1983-84

Activities - continued

d. Records Management: - continued

- . To convert more hard copy records to microfilm or electronic media.
- . To design, develop and maintain a comprehensive data base for 1700 Ministry forms and approximately 30 government common forms.
- . To analyze, redesign, consolidate and eliminate forms for a cost benefit of \$100,000.
- . To produce these results it will be necessary to increase the Records Management complement by 1 Records Officer.

e. Purchasing:

- . To continue to provide value for money on a timely basis in a manner prescribed by central agency regulations for over 8,000 Purchase Orders involving approximately \$40 million.

VOTE 2101

Item 04:

PERSONNEL SERVICES ACTIVITY

A. ACTIVITY ROLE AND OBJECTIVES

ROLE:

To provide assistance and advice on all aspects of personnel management and development.

OBJECTIVES:

1. To provide personnel administration and development services to the Ministry.
2. To provide payroll and personnel information services.
3. To ensure adequate staff capabilities by conducting long range manpower planning and technical training.
4. To ensure consistent application of the collective agreement and the effective resolution of grievances.
5. To provide training for municipal water and sewage treatment plant operators.
6. To develop and maintain the Ministry's Safety Policies.
7. To develop and assist in the implementation of a Ministry-wide performance appraisal program.
8. To liaise with Ontario educational institutions regarding training programs for the promotion of environmental expertise.
9. To ensure compliance with the Ontario Government personnel policies and procedures.

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

HUMAN RESOURCES AND PERSONNEL
DEVELOPMENT BRANCH

<u>SECTIONS</u>	<u>BUDGETS (\$000's)</u>			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
1.0 Personnel Operations	579.7	325.0	357.0	8	8	8
2.0 Benefits & Services	237.5	369.5	412.0	15	15	16
3.0 Human Resources Planning	-	98.0	134.0	2	2	3
4.0 Training & Certification	264.0	429.0	434.0	7	7	7
5.0 Staff Relations/ Safety	73.0	81.0	89.0	2	2	2
TOTALS	<u>1,154.2</u>	<u>1,302.5</u>	<u>1,426.0</u>	<u>35</u>	<u>35</u>	<u>37</u>

C. MAJOR ACCOMPLISHMENTS:

1981-82

1982-83

1.0 Personnel Operations:

- . Introduction of Classification Grievance Workshops for Management staff;
- . Completion of Broadbanding Project;
- . Recruitment services for 214 competitions;
- . Classification of 302 positions;
- . Presentation of classification grievances before arbitration.

- . Completed Classification Grievance Workshops for approximately 100 Management staff;
- . Introduction of Position Spec. Writing Workshops for Management staff;
- . Recruitment services for 161 competitions;
- . Classification of 209 positions;
- . Presentation of 10 classification grievances before arbitration.

2.0 Benefits and Services:

- . Workshop on the Application of Position Administration to the IPPEB System, for Personnel Administrators and IPPEB Clerks. Presented in conjunction with M.G.S.;
- . Introduced Direct Deposit System successfully to Ministry employees.

- . Carried out Attendance Audits on the following Branches:

Air Resources, Water Resources, Hazardous Contaminants and Standards, Environmental Approvals and Project Engineering, Accounts;
- . Established the production of Ministry pay-lists and Position Specs/Organization

1981-82

1982-83

2.0 Benefits and Services:

- . Charts by Micro-fiche; installed 4 Micro-fiche viewers in Branch;
- . Introduced new and improved procedures in following areas: Canada Savings Bonds, Workers Compensation, OHIP;
- . In co-operation with Accounts Branch, moved Ministry onto new sequential Organization Structure in the IPPEB system;
- . Implemented new Maternity Benefit plan;
- . Took part in Ministry orientation seminars with emphasis on benefits.

3.0 Human Resources Planning:

- | | |
|--|--|
| <ul style="list-style-type: none">. Management Skills Workshops;
(approx. 70 participants). Selection Process Workshop;
(18 participants) | <ul style="list-style-type: none">. Management Skills Workshops;
(46 participants). Selection Process Workshop;
(19 participants - S.E. Region). Introduction to Computer Courses; (57 participants) |
|--|--|

1981-82

1982-83

3.0 Human Resources Planning:

- | | |
|--|---|
| <ul style="list-style-type: none">. Introduction to Computers; (23 participants). Developed and delivered Orientation program;. Initiated Human Resources Planning Program;. Participated in the Affirmative Action Career Development Centre;. Provided consulting and counselling services as required;. Co-ordination of Youth and "Special" employment program. | <ul style="list-style-type: none">. Performance Appraisal Workshops; (26 participants). Developed and refined data base for Human Resource Planning program;. Co-developed and facilitated Career Development Centre; (12 participants). Co-ordination of Youth and "Special" employment program;. Provide consulting and counselling services as required. |
|--|---|

4.0 Training & Certification:

- | | |
|---|---|
| <ul style="list-style-type: none">. Scheduled 51 courses;. Conducted 57 courses, seminars and workshops for 1812 trainees; | <ul style="list-style-type: none">. Scheduled 52 courses;. Conducted 51 courses for 1300 trainees; |
|---|---|

1981-82

1982-83

4.0 Training & Certification:

- . Offered five new courses;
 - . Developed a program of mini-workshops for delivery in regions remote from Toronto;
 - . Expanded Training Centre by providing additional office and classroom space. Relocated the Section from 135 St. Clair to Brampton;
 - . Assisted the Regional Municipality of Durham staff in the development and delivery of a local training program based on the MOE Basic Sewage Treatment Operations Course and the Activated Sludge Workshop;
 - . Participated in the
- . Initiated development of five new courses;
 - . Reviewed and revised five existing courses;
 - . Refitted a mobile training centre;
 - . Delivered mini-workshops in MOE Northeastern Region;
 - . Assisted the staffs of the Regional Municipality of Sudbury, Ottawa-Carleton, Metro Toronto and Niagara in the development and delivery of local training programs based on the MOE Basic Sewage Treatment Operations Course and Pump Operations Workshop;
 - . Participated with the Pollution Control Association of Ontario and the Ontario Section American Water Works Association in the delivery of training seminars for provincial utility operations staff;

1981-82

1982-83

4.0 Training & Certification:

development of a Provincial voluntary certification program for operators of water and wastewater utilities.

- . Introduced computerized filing and record systems, word processing;
- . Obtained Ministry approval to participate in the Ontario Voluntary Certification Program for water and wastewater utility operators;
- . Participated on the executive of the International Association of Boards of Certification.

5.0 Staff Relations/Safety

1981-82

1982-83

5.1 Administration of
Collective Agreemts.
(working conditions/
benefits

8-12 calls/day
8-10 letters/memos/wk
1-2 sessions/quarter

5.1 Admin.of
Collec.
Agrmts.

- . provide day to day
advice line management
- . prepare and present
training to mgmt.
(employees rels./griev.
- . research and assist in
the
devlpmt. of staff rels.
policies
- . participation in
Min./Reg. Employee
Rels. Committees

4-6 mtgs./yr.

- . present details of renewed
Collec. Agrmts.
to Mgmt.

5.2 Grievance
Administration

approx. 40/yr.
approx. 10/yr.

5.2 Griev.
Admin.

- . investigate grievances
- . prepare grievance cases
for presentation
in-house and at
grievance board

- . as above 81/82

5.3 Negot. of OPSEU
Collective Agrmts.
(wrkg. conds./
benefits)

5.3 Neg.OPSEU
Coll.Agrmt.

- . as above 81/82

5.0 Staff Relations/Safety

1981-82

1982-83

5.3 - cont'd.

- . assist in devlpmt. of negotiation strategies
- . research mngmnt. needs

5.4 Safety Administration

6-8 calls/day
6-8 letters/memos/wk.
3/month

5.4 Safety Admin.

- . day-to-day advice to line mngmt.
- . prepare and present safety training wrkshps.
- . publication of employee handbk. on safety
- . issuance of safety policies, directives to all staff

2000 + copies distributed
approx. 6 during period

- . major revisions of Safety Policy Manual.
- . major revis. of Safety Policy Manual.

5.5 Initiated development of Attendance Improvement & Employee Rehabilitation program.

- . assist in development of policy
- . indiv. cases
- . approx. 12 cases handled.

D. EXPECTED ACHIEVEMENTS:

1983-84

1.0 Personnel Operations:

- . Continue training in Classification and Classification Grievances;
- . Preparation and defense of Classification Grievances, (particularly Environmental Technician Series);
- . Implementation of program to ensure current position specifications;
- . Continue training in position specification writing courses;
- . Conduct audits of selected class series usage;
- . Review of Management Compensation Plan Standards impacted by credentialism policy.

2.0 Benefits & Services:

- . Further and greater involvement in counselling and advising employees on benefits;
- . Ministry to be "Pilot Ministry" for Ministry of Government Services' "On-Line" Terminal project to allow for direct access to IPPEB/CARS systems.

3.0 Human Resources Planning:

- . Management Skills Workshops;
- . Performance Appraisal Training;
- . Selection Process Workshops;
- . Continue activities of Human Resource Planning Program.

4.0 Training & Certification:

- . Deliver 56 courses;
- . Complete development of and deliver five new programs;
- . Provide on-site mini-workshops in MOE Northeastern and Northwestern Regions;
- . Expand Training Centre by acquiring and installing two (2) portable classrooms;
- . Introduce computer and computer assisted training programs for utility operators;
- . Complete computerization of Section's files and records;
- . Participate in the implementation and provide administration and training support for the Ontario Voluntary Certification Program for Utility Operators;
- . Participate in the development and delivery of municipally sponsored operator courses to meet certification demands;
- . Additional Resource Requirements to carry out:-

- a) Item 4 above \$60,000 (DO&E funds)
- b) Item 5 above \$45,000 (DO&E funds)
- c) Items 7 & 8 1 training officer - \$25,000
 above 1 clerical typist - \$15,000
 DO&E funds \$10,000.

5.0 Staff Relations/Safety:

- | | | |
|--|--|---|
| Administration of
Collective Agreements | . as above | |
| | . finalize policy on
attendance improvement/
employee rehabilitation | |
| | . prepare and deliver
training programs | 1-2/per quarter
to cover all
line mgmt. |
| Grievance
Administration | . as above | |
| Negotiation of
OPSEU Collective
Agreements | . as above | |
| Safety
Administration | . as above | |
| | . introduce employee
Health Surveil-
lance Program | to cover all
operating personnel
in Regional Opers. |
| | . introduce training
program accident
investigation | |
| | . introduce training
program emergency first aid/
Cardio Pulmonary
resuscitation. | 75 potential trainees |

VOTE 2101

Item 05:

INFORMATION SERVICES ACTIVITY

A. ACTIVITY ROLE AND OBJECTIVES

ROLE:

To plan and implement communications strategies and programs in support of Ministry policies and activities.

OBJECTIVES:

1. To provide communications services to the Ministry.
2. To provide information on Ministry policies and programs to the public.
3. To encourage the development of environmental programs in Ontario educational institutions.

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

COMMUNICATIONS BRANCH

<u>SECTIONS</u>	<u>BUDGETS (\$000's)</u>			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
1.0 Director's Office	538.6	688.2	414.9	2	2	2
2.0 Information Programs	501.0	602.0	587.3	7	7	7
3.0 Creative Services	203.0	260.0	215.7	4	4	4
4.0 Office Services	147.0	168.0	189.0	4	4	4
5.0 Public Affairs & Education	77.0	94.1	114.1	1	1	1
6.0 Library Services	<u>151.0</u>	<u>187.0</u>	<u>179.0</u>	<u>6</u>	<u>6</u>	<u>5</u>
TOTALS	<u>1,617.6</u>	<u>1,999.3</u>	<u>1,700.0</u>	<u>24</u>	<u>24</u>	<u>23</u>

C. MAJOR ACCOMPLISHMENTS:

1981-1982

1.0 Office of the Director

- . Co-ordination of advertising programs:
Sport Fish Testing
Ontario 20 Ethnic.
- . Co-ordination of Acid Rain communications program
in co-operation with APIOS and policy committee.
- . Co-ordination of movie "Crisis in the Rain" in
co-operation with outside producer.
- . Co-ordination of TV production "You and the Law"
in co-operation with Legal Services.

2.0 Information Programs

- . 41 speeches and statements
- . 120 news releases
- . 6 issues of Ministry tabloid "Legacy"
- . Major publications printed: "Cottage Country",
"Guide to Sport Fish", "Case Against the Rain"
- . 2,000 letters
- . 6 plant openings
- . 10 exhibits

1982-1983

- . Co-ordination of advertising programs:
Sport Fish Testing
Ontario 20 Ethnic.
- . Co-ordination of Acid Rain communications
programs in co-operation with APIOS and
policy committee.
- . Co-ordination of test marketing of a
source separation program in co-operation
with Waste Management Branch.
- . 49 speeches and statements
- . 95 news releases
- . 4 issues of Ministry magazine "Legacy";
one in full colour
- . Major publications printed: "Great Lakes:
Yesterday, Today and Tomorrow", "Guide to
Sport Fish"
- . 2,100 letters
- . 5 plant openings
- . 10 exhibits

1981-1982

3.0 Creative Services

- . Production of new Ministry TV show "No Time to Waste".
- . New Ministry slide show "A Lake in Need".
- . Technical Photography
- . over 60 projects including aerial shots.
- . General photo coverage of Legacy and other general work.
- . Design, graphics and printing services for 10 exhibits.

4.0 Office Services

- . Typing and clerical services for:
 - 2,000 letters
 - 120 news releases
 - 41 speeches
 - 6 issues of Legacy
- . Reception services
 - 40,000 phone calls
 - 1,000 visitors

1982-1983

- . Production of videotape for unfinished Ministry "decade" project.
- . Design, graphics and photography for major display and exhibits program at Laboratory Open House events celebrating Ministry's 10th Anniversary.
- . Technical photography for 65 projects including aerial coverage.
- . Design, graphics and support services for 10 exhibits.

- . Typing and clerical services for:
 - 2,000 letters
 - 95 news releases
 - 49 speeches
 - 4 speeches of Legacy
- . Reception services
 - 40,000 phone calls
 - 1,000 visitors

1981-1982

5.0 Public Affairs and Education

- . Major conferences:
 - "Ontario Industrial Waste Conference"
 - "Environmental Teaching"
- . 20 public information meetings
- . Handbooks and teaching materials for teachers.
- . Environmental Explorations program for schools and camps. Over 161 visits. Programs in French and English.

6.0 Library Services

14,000	information requests
54,000	photocopies
24,600	library loans
6,000	titles acquired
260	journal subscriptions
1,400	computer searches
1,845	visits by public

1982-1983

- . Major conferences:
 - "Ontario Industrial Waste Conference"
 - "Environmental Teaching"
- . 15 public information meetings
- . Handbooks and teaching materials for teachers.
- . Environmental Explorations program expanded. Over 228 visits to schools and camps.

14,000
66,311
22,000
8,000
130
878
3,890

D. EXPECTED ACHIEVEMENTS:

1983-1984

1.0 Office of the Director:

- . Co-ordination of Ministry advertising programs including Sport Fish Testing program and the Ontario 20 ethnic advertising program in co-operation with the Ministry of Tourism and Recreation.
- . Co-ordination of Acid Rain communications programs in co-operations with APIOS and policy committee.
- . Co-ordination of the Ministry's Bicentennial 1984 program and events.

2.0 Information Program:

- . 40 speeches and statements
- . 100 news releases
- . 4 issues Ministry external magazine "Legacy"
- . New publication in French "Great Lakes: Yesterday, Today and Tomorrow"
- . Updates of existing publication: Fish Guides, Annual Report, etc.
- . 2,000 letters
- . 10 exhibits

1983-1984

3.0 Creative Services:

- . 3 new public services announcements: 2 videotape productions in support of regional activities or programs.
- . Technical photography for 65 field projects including aerial coverage.
- . General photography for Legacy magazine.
- . Design, graphics and print support services for 10 exhibits.

4.0 Office Services:

- . Typing and clerical support services for 3,000 letters
- . 100 news releases
- . 4 issues of Legacy magazine
- . 40 speeches
- . Reception services for 40,000 phone calls, 1,000 visitors

1983-1984

5.0 Public Affairs and Education:

- . Organization of 2 major conferences:
 - Ontario Industrial Waste Conference - special Bicentennial event;
 - Environmental Teaching Conference.
- . Organization of Environmental Exploration program with visits to 275 schools, camps and parks.
- . Organization of 20 public information meetings and 8 plant openings.

6.0 Library Services:

- . 14,000 information requests; 56,000 photocopy requests; 22,000 library loans; 6,000 new titles; 100 new journal subscriptions; 1,000 computer searches; 4,000 public visits.

VOTE 2101

Item 06:

ANALYSIS AND PLANNING ACTIVITY

A. ACTIVITY ROLE AND OBJECTIVES

ROLE:

To evaluate the Ministry's policies, program, and resource needs and to coordinate the effective management and efficient utilization of Ministry resources.

OBJECTIVES:

1. To assist in policy development and to provide for the coordination and analysis of Ministry policy.
2. To develop and maintain the Ministry's strategic planning process.
3. To develop and maintain the Ministry's operational planning systems and evaluate Ministry programs.
4. To manage the Ministry's corporate intra-governmental relations.
5. To provide socio-economic expertise to the Ministry.
6. To provide organizational policy support to the Deputy Minister.
7. To provide analytical and secretariat support to the Executive Committee, the Management Committee, and the Policy Committee.

8. To coordinate the identification of the Ministry's research needs and evaluate those needs.
9. To monitor external research performance and encourage the application of research results to the solution of environmental problems.
10. To develop improved management processes appropriate for the Ministry's mandate.
11. To apply improved management processes throughout the Ministry's operations.

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

<u>POLICY AND PLANNING BRANCH</u>	<u>BUDGET (\$000's)</u>			<u>STAFF</u>		
	<u>SECTIONS</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>
1.0 Director's Office	*	*	568.2	2	2	2
2.0 Management Standards and Operational Planning	*	*	371.6	5	6	7
3.0 Policy and Program Evaluation	*	*	241.3	4	5	6
4.0 Socio-Economics	*	*	394.2	4	5	5
5.0 Research and Special Studies**	*	*	2,489.2	2	2	4
TOTAL			4,064.5	17	20	24

* Branch sections initially designated in 1982 in conjunction with the Ministry reorganization.

** Formerly part of the Pollution Control Branch. Became part of the Policy and Planning Branch as of August 1, 1982.

C. MAJOR ACCOMPLISHMENTS:

1981-82

1982-83

1.0 Director's Office

- . Provision of policy advice to senior management.
- . Coordination of the effective management of resources from a corporate perspective through the strategic planning, operational planning, and policy development and approval processes.
- . Leadership and management of Branch to meet corporate needs.

- . Provision of policy advice to senior management.
- . Coordination of the effective management of resources from a corporate perspective through the strategic planning, operational planning, and policy development and approval processes.
- . Leadership and management of Branch to meet corporate needs.

1981-82

1982-83

2.0 Management Standards and Operational Planning

2.1 Management by Results

- . Internal Abstract of 1982-83 Plans.
- . Internal Report of 1982-83 Plans.
- . Internal Abstract of 1981-82 Year-End.
- . Internal Report of 1981-82 Year-End.

- . Internal Abstract of 1983-84 Plans.
- . Internal Report of 1983-84 Plans.
- . Internal Abstract of 1982-83 Year-End.
- . Internal Report of 1982-83 Year-End.

2.2 Management Standards

- . Not applicable

- . Develop Terms of Reference for Operational Planning, Long Range Planning, and Management Reporting Working Groups.
- . Management of Working Groups.
- . Develop an initial presentation of information package for Ministry managers.
- . Review adequacy of existing Strategic Planning, Resource Allocation, and Policy Development Processes relative to standards.
- . Management Board Submission on improvement plans.

2.3 Other

- . Not applicable

- . 3 Program Reviews conducted.
- . Update of the Status of pollution control equipment industry.
- . Development of Part VII funding

1981-82

1982-83

2.4 Operational Planning

a. Estimates Development

- . Determine Ministry Base Requirements.
- . Respond to Central Agency Decisions (input).
- . Assist in review of Ministry Priorities.
- . Prepare 1982-83 Estimates Documents.
- . Prepare Plant Operations Inventory (supplement #2).

- . Determine Ministry Base Requirements.
- . Respond to Central Agency Decisions (input).
- . Assist in review of Ministry Priorities.
- . Prepare 1983-84 Estimates Documents.
- . Prepare Plant Operations Inventory (Supplement #2).

b. Post Estimates Approval Stage

- . Prepare pro forma Estimates Documents.
- . Prepare detailed Branch Budgets.
- . Prepare Estimates Review Documentation including:
 - Member's Books
 - Issues Report Coordination.

- . Prepare pro forma Estimates Documents.
- . Prepare detailed Branch Budgets.
- . Prepare Estimates Review Documentation including:
 - Member's Books
 - Issues Report Coordination.

c. Operational Support to Other Units

- . Assist MBR coordinator to prepare report and abstracts:
 1. 1981-82 response
 2. 1982-83 plans.

- . Assist MBR coordinator to prepare report and abstracts:
 1. 1982-83 response
 2. 1983-84 plans
- . 2 Program Reviews conducted.

d. In-year Budgetary Activities

- . 22 Management Board submissions prepared.
- . 3 Capital Construction reports prepared.
- . Prepare financial analysis to assess salary and other needs.
- . Prepare year-end MBO's.
- . 12 special reports prepared.
- . Participate in 40 annual Vacancy Assessment Panel meetings.
- . Report to Management and Executive Committees (as required).

- . 27 Management Board submissions prepared.
- . 3 Capital Construction reports prepared.
- . Prepare financial analysis to assess salary and other needs.
- . Prepare year-end MBO's.
- . 12 special reports prepared.
- . Participate in 40 annual Vacancy Assessment Panel meetings.
- . Report to Management and Executive Committees (as required).

1981-82

1982-83

3.0 Policy and Program
Evaluation

3.1 Policy Development and
Approval Process

- . Develop policy workshops
- . Analysis and submission of 16 new policies.

- . Continue policy workshops.
- . Analysis and submission of 16 new policies.

3.2 Strategic Planning

- . Established initial strategic planning process.

- . Established formal Strategic Planning Process.
- . Completed initial step of Strategic Planning Process.
- . Developed strategic plan for drinking water.

3.3. Submissions to Cabinet

- . Preparation of 33 Cabinet submissions.

- . Preparation of 25 Cabinet submissions.

3.4 Other Ministries' Cabinet
Submissions

- . Analysis and comment on 128 Cabinet submissions from other Ministries.

- . Analysis and comment on 130 Cabinet submissions from other Ministries.

3.5 Estimates Development

- . Preparation of Future Outlook Report.
- . Preparation of Priority Review.
- . Preparation of Work Program.
- . Preparation of Estimates Speech.

- . Preparation of Future Outlook Report.
- . Preparation of Priority Review.
- . Preparation of Work Program.
- . Preparation of estimates Speech.

3.6 Resources Allocations

- . In-year review of resource allocations.
- . Establishment of Vacancy Assessment Panel.

- . In-year review of resource allocations.
- . 50 Vacancy Assessment Panel meetings.
- . Assessment of staff requirements.
- . Assessment of constraints.
- . 5 Program Reviews conducted.

4.0 Socio-Economics4.1 Acid Rain Studies

- . Preparation of 3 Benefits and Damages Studies.
- . Design of Screening Model for Control Strategies.
- . Analysis and preparation of information for Canada/U.S. Work Groups 1 and 3B.

- . 1st draft of "Source Book" on abatement costs and technologies for major Ontario SO₂ emitters.
- . Inco/Falconbridge Task Force Report.
- . Programming of Screening Model.
- . Analysis and preparation of information for Canada/U.S. Work Groups 1 and 3B.

4.2 Data and Statistics

- . Environmental Statistics, 1981.

- . Environmental Statistics, 1982.

4.3 Policy Analysis

- . Economic impact analysis for Cabinet Submission (25 annually).

- . Study of Charges for MOE services.
- . Study of Feasibility to Market MOE services.
- . Economic Analysis of Cans and Bottles options.
- . Economic Analysis of PCB destruction options.
- . Economic impact analysis for Cabinet Submissions (25 annually).

4.4 Economic Impact Evaluation

- . Economic analysis for Ontario Hydro's Algoma Region transmission line E.A.
- . Economic analysis for Ontario Hydro's Eastern Region Transmission line E.A.
- . Economic analysis for Ontario Hydro's Southwestern corridor transmission line E.A.
- . Economic analysis on Ontario Hydro - GPU cable.
- . Economic analysis on Victoria Hospital E.A.
- . Economic analysis of sewage and water works options for communities in Northern Ontario.

- . Financial impacts analysis of pollution control at Wells' Foundry.
- . Economic analysis of sewage options for communities near Hearst, Ontario.
- . Cost/Benefit Analysis of English-Wabigoon clean-up options.

1981-82

1982-83

5.0 Research and Special
Studies

Functioning as the Development and Research Group, the Unit coordinated applied research on water and sewage.

The Research Coordination Unit was incorporated into the Policy and Planning Branch as of August 1, 1982.

5.1 Research Advisory
Committee (RAC)

- . 11 meetings held.
- . Review of 200 research proposals and needs.
- . Financial monitoring of approved Provincial Lottery projects.
- . 18 projects funded.
- . 7 funded projects completed.

- . 11 meetings held.
- . Review of 500 research proposals and needs.
- . Financial monitoring of approved external research projects.
- . 18 projects funded.
- . 12 funded projects completed.
- . Support for and coordination of working groups.
- . Support for transfers of new technology.

5.2 Reports and Papers

- . RAC annual report.
- . Report on research priorities for MOE.
- . Review of Lottery Research 1978-81.

- . RAC annual report.
- . Consolidated report on 5 committees.
- . Report on MOE research priorities for MOE.
- . MOE research accomplishments.

5.3 Other

- . Coordination of internal and external applied research on water and sewage.
- . Management of Provincial Lottery funds for research.

- . Development and implementation of the Ministry Research Planning Process.
- . Management of funds for all regular, external MOE research.

D. EXPECTED ACHIEVEMENTS:

1983-84

1.0 Director's Office

- . Provision of policy advice to senior management.
- . Continued effective management of resources from a corporate perspective.
- . Leadership and management of Branch to meet corporate needs.

2.0 Management Standards
and Operational
Planning

2.1 Management by Results

- . Internal Abstract of 1984-85 Plans.
- . Internal Report of 1984-85 Plans.
- . Development of Water Quantity MBR information.
- . Computerization of industrial source MBR material.
- . General improvements to MBR material.

2.2 Management Standards

- . Management of Working Groups on Operational Planning, Long Range Planning and Management Reporting.
- . Presentation of Management Standard Information Packages to Ministry Managers.
- . Ongoing review of existing Strategic Planning, Resource Allocation, and Policy Development Process relative to standards.

1983-84

2.3 Other

- . Financial analysis of the effects of proposed control instruments on various firms.
- . Assistance in analyzing 10 policy submissions to Policy Committee.
- . Assistance in Strategic Planning Committee.
- . Review and analysis of Cabinet documents.
- . Report to Executive and Management Committees (as required).
- . Monitoring C.I. Sheets and follow-up.

2.4 Operational Planning

a. Estimates Development
(1984-85)

- . Determine Ministry Base Requirements.
- . Respond to Central Agency Decisions (input).
- . Assist in review of Ministry Priorities.
- . Prepare 1984-85 Estimates Documents.
- . Prepare Plant Operations Inventory.

b. Post Estimates Approval
Stage (1984-85)

- . Prepare pro forma Estimates Documents.
- . Prepare detailed Branch Budgets.
- . Prepare Estimates Review Documentation including:
 - Member's Books
 - Issues Report Coordination.

c. Operational support
to Other Units

- . Assit MBR coordinator to prepare report and abstracts:
 1. 1983-84 response
 2. 1984-85 plans.

1983-84

3.0 Policy and Program
Evaluation (cont'd)

3.4 Other Ministries'
Cabinet Submissions

- . Analysis and comment on 130 Cabinet submissions from other Ministries.
- . Briefing notes for 40 CCRD and CRD meetings.
- . Briefing notes for DM's Committee on Occupational and Environmental Health meetings (12 meetings).
- . Monitoring minutes and follow-up.

3.5 Estimates Development

- . Preparation of Future Outlook Report.
- . Preparation of Priority Review.
- . Preparation of Work Program.
- . Preparation of Estimates Speech.

3.6 Resource Allocation

- . In-year review of resource allocations.
- . 50 Vacancy Assessment Panel meetings.
- . Assessment of staff requirements.
- . Assessment of constraints.

3.7 Other

- . Report to Executive and Management Committees (as required).
- . Prepare report on Regulatory Reform.

2.4 Operational Planning
(cont'd)

d. In-Year Budgetary
Activities

- . 15-20 Management Board submissions to be developed.
- . 3 Capital Construction reports to be prepared.
- . Prepare financial analysis to assess salary and other needs.
- . Prepare year-end MBO's.
- . 12 special reports to be prepared.
- . Participate in 50 annual Vacancy Assessment Panel meetings.
- . Report to Executive and Management Committees (as required).

3.0 Policy and Program
Evaluation

3.1 Policy Development and
Approval Process

- . Coordination of 10 new policies.
- . Analysis and submission of 40 new policies.
- . Maintenance and management of Policy Committee (25 meetings) and Policy Manual.
- . Conduct 10 Policy Development workshops.

3.2 Strategic Planning

- . Complete Ministry Strategic Plan for the 1984-85 cycle.
- . Completion of Reports on Drinking Water.
- . Maintenance and management of Strategic Planning Committee.

3.3 Submissions to Cabinet

- . Preparation of 40 Cabinet submissions.

1983-84

4.0 Socio-Economics

4.1 Acid Rain Studies

- . Ontario Abatement Strategy for SO₂.
- . Synthesis Report on Economic Methodologies to Value Acid Rain effects.
- . Application of economic incentives to SO₂ sources.
- . Cost/Benefit analysis of Lake Liming.
- . Completion of Screening Model.
- . Amenity Value Survey Update.
- . Report on behavioral response of Anglers to develop dose-response relationships between acid deposition and recreational resources.

4.2 Data and Statistics

- . Environmental Statistics, 1983.
- . Report to Policy Field on use of demographic data.

4.3 Policy Development

- . Development of economic policy for Policy Manual.
- . Preparation of economic methodology for environmental analysis.
- . Preparation of 2 policies on the economics component of Environmental Assessments.
- . Economic impact analysis for 25 Cabinet submissions.

4.4 Economic Impact Evaluation

- . Quirke Lake mine tailings disposal.
- . Uniroyal-Elmira.
- . Algoma Steel - Wawa.
- . Marshes for sewage treatment.
- . Extension of EA to private waste facilities.
- . Ground water team (as required).

1983-84

5.0 Research and Special
Studies

5.1 Research Coordination
Committee (RAC)

- . 30 projects to be funded
- . 11 coordination meetings
- . Review of 540 reserach proposals
- . Financial monitoring of approved projects

5.2 Reports and Papers

- . Preparation of report on Research priorities for MOE
- . Preparation of report on research planning methodology
- . Preparation of report on reporting requirements
- . Preparation of RAC annual report
- . Preparation of consolidated report on 5 committees

5.3 Other

- . Implementation of Research planning Process throughout the Ministry

VOTE 2101

Item 07:

LEGAL SERVICES ACTIVITY

A. ACTIVITY ROLE AND OBJECTIVES

ROLE:

To provide legal services to the Ministry on a solicitor/client basis.

OBJECTIVES:

1. To prepare legislation and regulations in support of Ministry programs.
2. To act as Counsel in Ministry legal proceedings.
3. To advise on the preparation of enforcement instruments.
4. To advise on the preparation of contracts supporting Ministry programs and projects.

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

	<u>BUDGETS (\$000's)</u>			<u>STAFF*</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
Legal Services Branch	735.8	819.0	874.5	17	17	17
General Counsel	<u>84.0</u>	<u>96.0</u>	<u>97.5</u>	<u>2</u>	<u>2</u>	<u>2</u>
TOTALS	<u>819.8</u>	<u>915.0</u>	<u>972.0</u>	<u>19</u>	<u>19</u>	<u>19</u>

* Staff of the Ministry of the Attorney General.

C. MAJOR ACCOMPLISHMENTS

1981-82

- . launching of a series of legal interventions in the United States opposing SO₂ relaxations by U.S. sources;
- . successful appeal of Interflow prosecution resulting in fine of \$13,000.00;
- . a high level of prosecution activity and conviction success rate. Defendants during the year included Abitibi Price, Kimberly Clark of Canada, Kellogg Salada Canada, Falconbridge Nickel Mines, Algoma Steel Corporation and Inco Limited.

1982-83

- . Six lawyers assigned as liaison with regional offices;
- . fine of \$17,000 against Nacan Products Limited;
- . with one exception, prosecutions commenced during the year and concluded to date resulted in convictions;
- . participation as counsel in two lengthy hearings under the Consolidated Hearings Act concerning undertakings by Ontario Hydro;
- . two lawyers in Branch named as Queen's Counsel;
- . extensive amendments to the Environmental Protection Act and the Ontario Water Resources Act prepared during the year;
- . Branch Director carried out a review of all MOE legislation and regulations to assure consistency with the new Canadian Constitution now in force;
- . one lawyer from Branch served as legal counsel to Waste Management Review Team;
- . involvement by Branch in interventions in U.S. administrative proceedings concerning trans-boundary pollution with respect to acid rain and Niagara River issues;

1982-83

- . implementation of a summary system of enforcement for minor prosecutions in accordance with the Provincial Offences Act;
- . involvement in two arbitrations - one involving approximately \$95,000 and one involving \$300,000. Both these arbitrations were successful and in one matter costs were awarded against the claimant and in the second matter each party ordered to bear its own costs;
- . publications in legal journals concerning law of transboundary pollution and other issues.

D. EXPECTED ACHIEVEMENTS:

1983-84

- . Extensive amendments to Environmental Protection Act and Ontario Water Resources Act to be introduced in the Legislature and enacted.
- . In 1983-84 this review should reach the stage where legislation is being prepared by a member of the Branch.
- . Both Ministry policy and the direction of events will lead to a heavy involvement of the Branch as counsel in major hearings under the Environmental Assessment Act and the Consolidated Hearings Act.
- . The Branch will have a heavy involvement in legal interventions in administrative and possibly judicial proceedings in the United States involving both the Niagara River and acid rain issues.
- . Prosecution activity and appeals therefrom during the year will include cases involving such major corporations as Glidden, Algoma Steel, C.I.P., Canadian Pacific and Falconbridge.

VOTE 2101

Item 08:

AUDIT SERVICES ACTIVITY

A. ACTIVITY ROLE AND OBJECTIVES

ROLE:

To assist the Deputy Minister and other Ministry managers in the effective discharge of their responsibilities.
resources.

OBJECTIVES:

1. To provide assurance to management that control processes are satisfactory with respect to efficiency, economy and effectiveness.
2. To report to management concerning potential problems or issues with respect to control.
3. To recommend constructive changes to correct identified control weaknesses or deficiencies.

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

	<u>BUDGETS (\$000's)</u>			<u>STAFF*</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
Management Audit Branch	<u>259.7</u>	<u>266.0</u>	<u>443.6</u>	<u>7</u>	<u>7</u>	<u>9</u>

C. MAJOR ACCOMPLISHMENTS:

	<u>1981-82</u>	<u>1982-83</u>
Grant Audits: Direct, Private Systems, CSCP and COASP.	. 379 audits; \$2,097.0 in grant reductions	. 182 audits; \$1,145.0 in grant reductions
Financial/ Operational Audits	. 4 audits; 15 recommendations	. 3 audits; 17 recommendations
Comprehensive Audit: Implementation of Comprehensive Auditing	. Development of organization structure to cope with comprehensive audit function.	. Terms of Reference were defined and determined. . Long term and short term plans were established.
Special Assignments	. 2 audits; 8 recommendations	. Audit programs and schedules were prepared. . 5 audits; 11 recommendations.

D. EXPECTED ACHIEVEMENTS:

1983-84

Grant Audits: Direct, Grants Private Systems and C.O.A.S.P.	. 374 audits
Financial and Operational Audits	. 3 audits
Policy Compliance, Evaluation of Management and Financial Controls	. 7 audits
Special Assignments: Investigations and Reviews	. 9 audits

VOTE 2101

Item 09:

SYSTEMS DEVELOPMENT SERVICES ACTIVITY

A. ACTIVITY ROLE AND OBJECTIVES

ROLE:

To provide development and operating support for the Ministry's computerized information systems.

OBJECTIVES:

1. To assess the need for computerized information systems.
2. To assist in the implementation of computerized information systems.
3. To provide the Ministry with computer systems operating services.
4. To coordinate the use of computers in the Ministry.

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

SYSTEMS DEVELOPMENT OFFICE

	<u>BUDGETS (\$000's)</u>			<u>STAFF*</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
1.0 Systems Development	398.4	425.0	460.8	9	9	9
2.0 Systems Operation	<u>333.5</u>	<u>377.0</u>	<u>407.2</u>	<u>12</u>	<u>12</u>	<u>12</u>
TOTALS	<u>731.9</u>	<u>802.0</u>	<u>868.0</u>	<u>21</u>	<u>21</u>	<u>21</u>

C. MAJOR ACCOMPLISHMENTS:

1981-82

1.0 Systems Development

- . Assist in Acquisition of Equipment in 4 Southern Regions for RDDPS.
- . Provide support for first year of operation of LIS.

1982-83

- . Assist in Acquisition of Equipment in Northeastern Region for RDDPS.
- . Assist in Acquisition of I/O processor for the LIS.
- . Development of Industrial Monitoring Information System (IMIS).
- . Development of Waste Site Information System (WSIS) for Active Sites.

2.0 Systems Operations

- . Introduction of RACF (Resources Access Control Facility) resulted in a computed security system on a limited basis.
- . Installation of key-to-disk data entry/data capture system.
- . Operation of a revised liquid wastes waybill system.

- . Extension of RACF to all aspects and all Branches of Ministry, including Regional Offices.
- . Further development of key-to-disk system to capture data directly from remote stations. (Direct data entry by users).
- . Implementation of inventory skills system.
- . Operation of many additional COBIS Modules. (Almost doubling number of runs).
- . Local daily printing of cheques for COBIS system.

D. EXPECTED ACHIEVEMENTS:

1982-83

1.0 Systems Development

- . Develop Provincial/Municipal Billing System.
- . Assist in Acquisition of Computer Equipment for Air Quality Telemetry System.
- . Extend waste Site Information System for Closed Sites and provide Regional Access to System.
- . Complete Regional Distributed Data Processing System (RDDPS) with respect to 6 original systems selected and extend Regional access to additional systems.

2.0 Systems Operation

- . Take active part in the development of a Ministry Information resource concept.
- . Develop Ministry information centre service.
- . Participate in aquisition of an input/output processor to replace present outdated equipment.
- . Develop a disaster recovery plan.
- . Develop a computer cost reporting system using focus.
- . Develop automatic disk migration system as a method of computer cost reduction.

VOTE 210 1

Item 10:

EXPERIENCE '83 ACTIVITY

A. ACTIVITY ROLE AND OBJECTIVES

ROLE:

To provide meaningful work experience for students during the summer months.

OBJECTIVES:

1. To provide student employment on external projects (student-administered research proposals submitted by universities, community colleges and environmental groups considered of special interest to Ministry programs); and
2. To provide student employment on internal projects (projects supervised directly by Ministry staff within Ministry organization).

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

	<u>BUDGETS</u>			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
Experience Program	347.7	304.3	288.7	-	-	-

C. MAJOR ACCOMPLISHMENTS:

1981-82

- . 48 internal and 36 external projects approved
- . summer employment for 237 students

1982-83

- . 78 internal and 19 external approved
- . summer employment for 189 students

D. EXPECTED ACHIEVEMENTS

1983-84

- . 75 internal projects and 19 external projects

- . Summer employment provided to 176 students

VOTE 2101

MINISTRY ADMINISTRATION PROGRAM

This program provides financial, administrative, corporate policy, planning and coordination of research as well as analytical services, personnel support and systems development. Legal and communication services are also included within this program.

Program Funding: (\$000's)

	<u>BUDGETS</u> (\$ 000's)			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
Ministry Administration Program	10,139.6	10,730.2	13,395.7	191	197	201

VOTE 2101

Item 01:

MAIN OFFICE

A. ACTIVITY OBJECTIVES:

1. To provide for the overall management of the Ministry, broad policy formulation and the implementation of Legislation pertaining to the Ministry.
2. To develop the Financial and Administrative Management Policies of the Ministry.

The Main Office is comprised of:

- (1) Office of the Minister.
- (2) Office of the Deputy Minister.
- (3) Executive Director, Finance and Administration.
- (4) French Language Coordinator.
- (5) Affirmative Action Office.
- (6) Executive Coordinator, Reorganization.
- (7) Senior Advisor to the Minister.

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

	<u>BUDGETS</u>			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
Main Office	902.1	936.5	1,085.5	16	16	16

VOTE 2102

ENVIRONMENTAL PLANNING PROGRAM

VOTE 2102

ENVIRONMENTAL PLANNING PROGRAM

Under this program, plans and programs are developed to protect air quality, surface and ground water quality and quantity, to manage wastes, to ensure an adequate quality of drinking water and to promote the consideration of the environment in the planning and development of undertakings. Laboratory and applied research services are also provided.

Program Funding: (\$000's)

	<u>BUDGETS</u> (\$000's)			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
Environmental Planning Program	32,713.1	41,088.0	40,468.7	619	638	631

VOTE 2102

Item 01:

PROGRAM ADMINISTRATION ACTIVITY

Program Administration is comprised of: Assistant Deputy Minister,
Environmental Planning Division

A. ACTIVITY ROLE

To provide management for the Environmental Planning Division and for policy development as well as recommendations for Legislation.

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

	<u>BUDGETS</u>			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
Program Administration	222.0	120.8	123.3	2	2	2

VOTE 2102

Item 02:

AIR RESOURCES ACTIVITY

A. ACTIVITY ROLE AND OBJECTIVES:

ROLE:

To develop plans and programs to protect air quality and to monitor their results.

OBJECTIVES:

1. To assess the presence and transport of airborne substances and to determine their effects.
2. To develop regulatory mechanisms to protect air quality.
3. To assess the impact of noise on the environment and develop regulatory mechanisms for its control.
4. To provide expertise on air pollution control technology and processes.

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

AIR RESOURCES BRANCH

<u>SECTIONS</u>	<u>BUDGETS (\$000's)</u>			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
1.1 Director's Office	314.0	821.0	576.2	12	12	13
1.2 Board of Negotiation	5.0	5.0	5.0	-	-	-
1.3 Farm Pollution	25.9	25.0	20.0	-	-	-
2.0 Air Quality & Meteorology						
- Regular	1,908.0	2,066.0	2,030.7	27	28	26
- APIOS	72.0	133.0	111.9	2	3	3
3.0 Emission Tech. & Reg.Dev.						
- Regular	438.0	554.0	711.0	9	10	11
- Hazardous Contaminants	44.0	48.0	48.0	-	-	-
- Nanticoke Project	21.0	23.0	23.0	-	-	-
- APIOS	-	36.4	-	-	1	-
- Vehicle Emissions	358.0	420.0	412.6	12	12	11

AIR RESOURCES (cont'd)

<u>SECTIONS</u>	<u>BUDGETS (\$000's)</u>			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
4.0 Phytotoxicology						
- Regular	513.5	579.0	639.3	13	13	13
- APIOS	42.0	193.7	192.3	-	3	3
5.0 Atmos. Res. & Spec. Proj.						
- Regular	626.5	661.0	730.3	8	9	9
- Research	274.0	301.0	-	-	-	-
- Hazardous Contaminants	342.0	415.2	393.5	2	2	2
- Nanticoke Project	321.0	45.0	371.6	2	2	2
- Trace Contaminants Monitoring	275.0	386.8	392.8	-	3	3
- APIOS	221.0	287.5	317.5	2	9	9
- Fluoride kStudy	82.0	-	-	-	-	-
6.0 Noise Section	<u>120.0</u>	<u>183.4</u>	<u>249.4</u>	<u>4</u>	<u>4</u>	<u>4</u>
TOTALS	<u>6,024.0</u>	<u>7,589.0</u>	<u>7,225.1</u>	<u>97</u>	<u>111</u>	<u>109</u>

C. MAJOR ACCOMPLISHMENTS

1981/82

1982/83

1.1 Director's Office:

- a) Provision of policy advice, internal and external liaison, and research management.
- b) Centralized administrative support provided for Branch activities.

- . Major accomplishments included participation in Canada/U.S. acid negotiations.
- . Approximately 780 Purchase Orders processed, 40 performance appraisals received, and 600 Petty Cash transactions.

- . Major accomplishments included testimony regarding acid rain to U.S. Congressional Committees and participation in carrying out reorganization directives within Ministry.
- . Approximately 730 Purchase Orders processed, 75 performance appraisals received, and 600 Petty Cash transactions.

1.2. Board of Negotiation:

Settlement of claims submitted due to injury or damage to vegetation and livestock caused by contaminants.

- . Approximately five (5) hearings annually

- . Approximately five (5) hearings annually

1.3 Farm Pollution Advisory Committee:

Provision of advice to the Ministry concerning conformity of certain animal waste disposal methods with normal farming practices.

- . Approximately 25 meetings annually

- . Approximately 25 meetings annually

2.0 Air Quality & Meteorology Section:

2.1 Regular Work:

1981/82

1982-83

- | | | |
|---|---|--|
| a) Carry out instrument selection, maintenance, replacement, and calibration, providing data quality assurance for Ontario's network of air monitoring instruments. | . Approximately 700 instrument audits completed. | . 760 instrument audits completed. |
| b) Approximately 3 million data points processed annually by air quality and meteorological network stations. | . Completion of annual reports of the quality of air in the province indicating trends and relationships with criteria. | . New Air Quality Index designed for Ontario. Annual air quality reports published. |
| c) Air Pollution Index publicized for nine cities and Alerts issued as necessary. | . 26 Advisories and Alerts issued for 5 major cities. | . 34 Advisories and Alerts issued for 5 major cities. |
| d) Provision of meteorological expertise - including weather forecasts, air parcel trajectory analysis and court testimony. | . Trajectory analysis developed. | . Trajectory analysis system brought on-line and staff testified in 5 industrial air pollution prosecutions. |
| e) Ongoing advice provided on air pollution control abatement strategies. | . Development of control strategy options. | . Major input to regions on abatement negotiations (3 cases). |
| f) Meteorological and modelling expertise provided for Ontario's radioactive release contingency program for nuclear power plants. | . Development of response capability. | . Participated in one (1) mock alert. |

2.2 Acid Precipitation:

1981/82

1982/83

a) Development of models of long range transport of pollutants for control of acid deposition and oxidants. Also special models for unique releases such as hazardous contaminants.

b) Development and update of emission inventory systems for use in models and determining abatement strategies.

. Models tested and evaluated by Canada/U.S. Acid Rain Group 2.

. Inventories for SO₂ completed.

. Models extensively employed in federal/provincial acid rain abatement negotiations.

. Inventories for NO_x and hydrocarbons begun.

3.0 Emission Technology and Regulation Development Section:

3.1 Regulation Development & Environmental Assessment Unit:

Regular Work:

1981/82

1982/83

- | | | |
|---|--|--|
| a) Guidelines and Standard Development. | . 4 guidelines for new air contaminants. | . 5 guidelines for new air contaminants. Sampling and analytical procedures for 9 air contaminants. |
| b) Environmental Assessment Reviews and Comments, and Comments. | . Issued for 25 projects. | . Issued for 24 projects. |
| c) Special Regulations. | . Recommendations on revisions to O. Reg. 308.
. Assisted in development of Ontario Hydro Reg. 7/82 limiting emissions of sulphur dioxide and nitrogen oxides.
. Lead group in establishment of new regulation O. Reg. 151/81, regulating SO ₂ emissions by major sources in Sarnia area. | . Began work on regulation for Lambton generating station. |
| d) Special Studies. | . Began fluoride study. | . Participated with Ministries of Health & Labour in major study into health impact of fluoride emissions from brick plants.
. Lead group in development of data for public hearing on London Victoria Hospital heating facility expansion. |

1981/82

1982/83

3.2 Control & Process Technology Unit:

- | | | |
|---|---|---|
| a) Support of Federal/
Provincial Acid Rain
Research. | <ul style="list-style-type: none">. Participate in Canada/
U.S. Acid Rain Work
Group IIIB culminating
in production of its
report in 1982.. Assistance to Regions
and Branches
(11 projects).. Review of control methods
reports and references
for various groups.
(24 tasks). | <ul style="list-style-type: none">. Completion of Work
Group III B report.
. Assistance to
Regions (2 projects).. Secondment to APIOS
for aid in preparing
INCO Falconbridge
Task Force Report. |
| b) Ontario Acid Rain
Abatement Options. | <ul style="list-style-type: none">. Development of initial
control technologies
and costs for inclusion
in "Source Book" Inco,
Falbridge, Wawa, Hydro.
Liaison with these
companies. | <ul style="list-style-type: none">. Completion of work started
in 1981-82 on "Source Book".
Extension of Sources to
Refineries, Pulp and Paper
and Steel companies,
initiate information
gathering. |
| c) Other Tasks. | <ul style="list-style-type: none">. Technical evaluation of
"Intervention" technol
ogies and reports. | <ul style="list-style-type: none">. Review of technologies,
report, etc., connected
with intervention (6 tasks).. Review of reports,
literature and proposed
technologies for other
Branches (5 projects). |

3.3 Source Measurement Unit:

- | | | |
|-----------------------------------|--|---|
| a) Trace Organic
Contaminants. | <ul style="list-style-type: none">. Sampling at one incin-
erator completed.. Signalled potential dangers
with SWARU emissions. | <ul style="list-style-type: none">. Sampling at two
incinerators carried out. |
|-----------------------------------|--|---|

1981/82

1982/83

3.3. Continued

b) Continuous Emission Monitoring

- . Evaluation of an opacity meter and two particulate emission monitors at the Canada Metals Plant in Toronto, Experimental.
- . Organization of a seminar on continuous emission monitoring for the Ministry and Ontario industry in Toronto.
- . Evaluation and development of a continuous emission monitoring of asbestos emissions at Raybestos and Abex, Experimental.

- . Evaluation of feasibility of continuous stack opacity monitoring for lead at the Prestolite Plant at Maple.
- . Literature evaluation of continuous emission monitoring for total sulphur in pulp and paper industry.
- . Planning and start of reconstruction of an existing van into a mobile emission monitoring system (MEMS).
- . Experimental Evaluation of a manual method for total reduced sulphur.

c) Nanticoke Environmental Management Program and Sudbury Environmental Study

- . Completed a draft report on Phase 2 emission measurements at the Texaco Tank Farm.

- . Emission sampling of the Texaco carbon monoxide (CO) boiler stack gases completed.
- . Summary report on Emissions from the Sudbury Basin completed.

d) Witnessing and Evaluation of Source Emission Tests at Industries

- . 100

- . 40

e) Hazardous Pollutants and Odours

- . Completed design of a calibration apparatus for examination of solid sorbents.

	<u>1981/82</u>	<u>1982/83</u>
3.4 <u>Vehicle Emission Unit:</u>		
a) Test Centre Program		
. Vehicle Inspections:		
- Spotchecks	4519	4757
- Dealerships	2673	3089
. Violations	427	614
. Prosecutions	9	29
. Lectures/Demonstrations		
- Colleges Visited	31	24
- Students Addressed	2473	2116
. Public Complaints & Enquiries Processed	213	626
. Service Stations		
- Visits	105	749
- Violations	15	164
. Muffler Shop Visits	203	391
b) Special Projects & Support Staff		
. Fuel Economy		
- Car Tests	74	93
c) Smoke Control Program		
. Smoke Emissions:		
- Vehicles Stopped	473	426
- Prosecutions		
. Fines	411	328
. Pending	5	55
. Dismissed	2	9

4.0 Phytotoxicology Section:

4.1 Regular Program:

1981/82

1982/83

- | | | |
|---|--|---|
| a) Complaints and investigations. | . 221 complaints investigated and reported on. | . 181 investigated and reported on. |
| b) Further action from investigations. | . 48% of complaints diagnosed as caused by contaminants. | . 29% diagnosed as caused by contaminants. |
| c) Cases forwarded to Board of Negotiation. | . 41 contaminant confirmed complaint reports forwarded. | . 38 contaminant confirmed complaint reports forwarded. |
| d) Emission source impact surveys. | . 122 emission sources investigated and reported on. 71 were assessment surveys and 51 were additional sources received through complaints. | . 94 emission sources investigated and reported on. 63 were assessment surveys and 31 were additional sources received through complaints. |
| e) Ongoing industrial impact surveys. | . 4260 assessment survey stations visited for observation, maintenance or collection purposes. | . 4585 assessment survey stations visited for observation, maintenance or collection purposes. |
| f) Contamination sampling. | . 8246 samples collected and chemically analyzed for contamination (60 different chemical parameters in total) as well as histology, pathology, herbarium and other diagnostic purposes. | . 7430 samples collected and chemically analyzed for contamination (50 different chemical parameters in total) as well as histology, pathology, herbarium, and other diagnostic purposes. |
| g) Pre-operational surveys. | . 1 conducted. | . 3 conducted. |

4.0 Phytotoxicology Section: - continued

	<u>1981/82</u>	<u>1982/83</u>
h) Soil and vegetation contamination guidelines.	. Recommendations on phytotoxicity of several airborne contaminants.	. 20 established or revised.
i) Research projects.	. 23 conducted to characterize effects of contaminants and their interactions with plants and soils.	. 16 conducted.

4.2 APIOS Program:

1981/82

- . Publication of an Acidic Precipitation - Terrestrial Effects Annotated Bibliography.
- . 12 baseline vegetation sites re-sampled for foliar chemistry trends.
- . Development and operation of indoor simulation chambers at Brampton to assess effects of acidic precipitation on plant foliage.
- . 60 new and 15 existing soil baseline sites sampled (750 samples for 30 parameters) to assess trends in the chemistry of different Ontario soil types.
- . 4 counties in the 'Ontario Soil Surveys' resampled to further assess changes and trends in soil chemistry (200 samples).
- . 2 intensive soil variability study plots established to quantify natural variation in soil parameters inherent in the baseline study.

1982/83

- . 6 major research studies conducted at Brampton using indoor simulation chambers to assess effects of acidic precipitation on plant growth.
- . Designed and initiated construction of an outdoor exclusion canopy system at Brampton to study effects of acidic precipitation on crop growth under realistic natural conditions.
- . 33 potentially sensitive baseline soil sites resampled (225 samples for 30 parameters) to assess trends in the chemistry of different Ontario soils.
- . 5 counties in the Ontario Soil Surveys resampled to assess historic changes and trends in soil to chemistry (245 samples).
- . 2 soil variability plots re-sampled to quantify natural variation in soil parameters inherent in the baseline study.

4.2 Continued

1981/82

- . 3 major soil types leached with simulated acid precipitation to assess possible changes in soil chemistry over time.
- . Intensive monitoring of precipitation throughfall and soil leachates established at 2 sites in the Dorset area and at Nanticoke to compare remote and point source effects.
- . Linkage studies between terrestrial and aquatic systems carried out to assist in MOE watershed calibration studies.

1982/83

- . Continued the leaching of 3 major soil types with simulated acidic precipitation and reported on the findings to date.
- . Developed methods to document the ability of different soils to resist acidification and prepared report on findings.
- . Contracted the biogeochemical program consisting of element cycling, accumulation and losses in a terrestrial system at Dorset to an outside research organization.

5. Atmospheric Research and Special Programs Section:

1981/82

1982/83

5.1 Regular Work - Management Support:

- | | |
|--|--|
| <ul style="list-style-type: none">. Supervised and planned the activities of the Atmospheric Research and Special Programs Section.. Managed the activities of special studies such as the Nanticoke Environmental Management Program and the Air Resources component of the Acidic Precipitation in Ontario's study.. Provided co-ordination and support for the Air Resources component of the Hazardous Contaminants Program.. Rebuilt Section staff as approximately 50% of the positions in the Section were refilled.. Co-ordination of ARB emergency response capabilities. | <ul style="list-style-type: none">. Continued management and co-ordination roles described for 1981-82.. Co-ordination of the Oxidant Strategy Development Program.. Participation in the Federal-Provincial Research and Monitoring Co-ordinating Committee - Atmospheric Sciences Sub Group (for Long Range Transport).. Participation in the management committee to develop a new Ministry-wide hazardous contaminants program in co-operation with the Hazardous Contaminants and Standard Setting Branch.. Co-ordinated all air pollution test loads with Ministry laboratory for lab workload planning. |
|--|--|

1981/82

1982/83

5.2 Monitoring and Instrumentation Development Unit:

- . New Mobile Air Monitoring Unit #2 (MAMU 2) finished and commissioned into service.
- . Five mobile monitoring surveys performed by the newly constructed MAMU 2.
- . Nine mobile monitoring surveys performed by MAMU 3 (TAGA 3000).
- . Monitoring was conducted at Niagara Falls on Feb. 16, 1982 and at CPR derailment at Medonte Township from Feb. 28, 1982 to Mar. 9, 1982. At Medonte site there was potential for a major spill of anhydrous hydrogen fluoride.
- . Mobile Monitoring Maintenance Centre established and Mobile Air Monitoring Unit #4 (MAMU 4) constructed as mobile workshop for maintenance of MAMU's 1, 2 & 3 in the field. Carries safety and monitoring equipment for crews responding to emergencies.
- . Reconstruction of fire-damaged Unit (MAMU 1) finished and Unit commissioned by end of FY1982-83.
- . Eighteen mobile air monitoring surveys conducted by MAMU's #2 and #3.
- . The Unit responded to following emergencies:
 1. Kapuskasing - leak from pressurized liquid SO₂ tank, July 13, 1982.
 2. Toronto - ammonia spill - Canada Packers, Sept. 8, 1982.
 3. Toronto - fire at storage warehouse, Nov. 4, 1982.
- . Research and development continued on monitoring and positive identification of trace organic compounds in ambient air.
- . Two types of sampling cartridges developed and tested for organics C₂ to C₁₀.

1981/82

1982/83

5.2 Continued

- . A new method - high resolution gas chromatography with two columns of different polarity - for positive identification of organic compounds in ambient air was developed and applied to the analysis of PCB's in ambient air from the 1980 Province-wide survey.
 - . A new instrument - a preconcentrator of trace organics from the ambient air with cryocooled pre-focussing loop - was designed, constructed and tested in connection with high resolution gas chromatography.
 - . Development work started on identification and determination of trace organic compounds in ambient air by preconcentration with developed instrumentation described above.
- . Designed sequential sampler for automatic collection for up to 12 samples on adsorbtion cartridges of the developed design.

1981/82

1982/83

5.3 Atmospheric Contaminants and Research Planning Unit:

a) Research Grants Program:

- . 28 research grant applications on topics relevant to air pollution in Ontario received from Ontario universities.
 - . Following evaluation, 16 projects funded.
 - . Evaluators were drawn from ARB, LCB, PCB, HCO and Regions.
 - . Development of automated PAN analyzer finalized.
 - . Successful Research Grants Seminar held in January where grant recipients reported results to a diverse audience from government, universities and private industry.
 - . Supervised completion to the Hamilton Road Dust Study funded with Lottery money.
- . 33 research grant applications received.
 - . 16 projects recommended for funding.
 - . Annual Research Grants Program Seminar conducted in January.
 - . Extensive input to Research Advisory Committee and development of the new strategy for research management with the Ministry.

1981/82

1982/83

5.3 Continued

b) Hazardous Contaminants:

- . Continuation of field study to compare different methods of measuring respirable and inhalable components of airborne particulate. Five novel samplers were tested against two Ministry standard samplers.
 - . Organic vapour standard generator system refired for use in developing organic vapour sampling system for field use by Regional personnel.
 - . Collected information on hazardous airborne contaminants in Ontario (dossier preparation).
 - . Provided information on hazardous contaminants to upper management and Regional personnel, as required.
 - . Transferred computerized data base (HCIS) to the Hazardous Contaminants Co-ordination Office.
 - . Maintained access to commercial data bases.
- . Field study to compare sampling methods for inhalable and respirable particulate completed and report drafted.
 - . Automatic dichotomous particulate samplers purchased with funds provided by Research Advisory Committee to provide benchmark inhalable particulate data from across the province to assist in standard setting process.
 - . Sampling pumps for Regional use for portable organic vapour sampling tested and specific model recommended.
 - . Utilization of organic vapour generator and calibration system improved with addition of gas chromatograph.
 - . Continuation of dossier production on hazardous contaminant of importance for Ontario.
 - . Extensive input into proposed Ministry Handbook of Hazardous Contaminants.
 - . Extensive input into Hazardous Contaminants Office Chemical Assessment Committee.

5.3 Continued

1981/82

1982/83

b) Hazardous Contaminants: - Continued

- . Provided information on hazardous contaminants to senior management and Regional personnel, as requested.
- . Developed an in-house, easy access, compilation of hazardous contaminant information on a portable microprocessor, incorporating hazard information, Ontario use and transportation statistics, Ontario standards and Ontario and other measured environmental concentrations.
- . Maintained access to commercial chemical data bases.
- . Developed a priority short list of 21 chemicals of importance for air at the request of the Hazardous Contaminants and Standard Setting Branch.
- . Provided co-ordinating input and hazardous contaminants information for the TTC diesel bus yard study.
- . Initiated project to develop scientifically valid sampling method for volatile or labile particles such as Polynuclear Aromatic Hydrocarbons (PAH) in air.
- . Developed contract proposal for storage and handling study for organic vapour sampling cartridges.

1981/82

1982/83

5.4 Nanticoke Environmental Management Program (NEMP):

- | | |
|--|--|
| <ul style="list-style-type: none">. Continued routine monitoring of air quality and scientific analysis of the data.. Addition of eleven stations to telemetry network.. Execution of special studies into washout of pollutants from the plumes of the local and ozone concentrations in the Haldimand-Norfolk area.. Characterization of emissions of reduced sulphur compounds from Stelco and Texaco.. Organization of second public information seminar into air and water quality in Nanticoke area. | <ul style="list-style-type: none">. Continued routine monitoring, data analysis and production of reports on air quality and industrial impact at Nanticoke.. Participation in a special study into shoreline effects on the dispersion of industrial emissions at Nanticoke.. Further testing of composition and rates of emissions from Ontario Hydro and Texaco plants.. Organization of public information seminar on air and water quality at Nanticoke. |
|--|--|

1981/82

1982/83

5.5 Ambient Trace Contaminants Monitoring:

- . Maintenance and operation of Trace Atmospheric Gas Analyzer (TAGA 3000) and additional research and development work.
- . Monitoring and calibration procedure developed for acylates, amides, amines, phenol, benzene-toluene-xylenes, aldehydes and ketones.
- . Methodology developed for detection and quantitation of reduced sulphur compounds by novel technique using UV analysis.
- . Research performed on detection of trace levels of HF in real time mode.
- . Developed procedure for monitoring of ammonia, nitric acid, aromatic amines, chlorine and styrene.
- . Implementation and testing of the next data acquisition software TAGA 81/DATA 81 and TCAL.
- . Calibration of selected "Priority Chemicals" using the new low pressure front end as a part of Emergency Preparedness Programme.
- . Implementation of the computer controlled Reagents gas inlet system.
- . Testing of the Direct Insertion Probe for analysis of high boiling substances.
- . Detection of chlorine dioxide in the presence of chlorine in ambient air.

1981/82

1982/83

5.6 Acid Precipitation in Ontario Study (APIOS) and
Sudbury Environmental Study (SES):

a) Acid Precipitation Study

- | | |
|--|--|
| <ul style="list-style-type: none">. Implementation of full deposition monitoring network.. Finalization of data base design, and development of data validation procedures.. Network intercomparison studies with other agencies monitoring in Ontario, also with the CANSAP and NADP programs.. Completion of plume washout study, and preliminary data analysis.. Participation in Canada/ U.S. MOI Work Group Activities; as well as NADP Technical Committee (as members). | <ul style="list-style-type: none">. Publication of first APIOS data reports.. Performing data analysis and production of draft reports on wet deposition in Ontario, source areas of acidic deposition, etc.. Completion of a quality assurance audit of the deposition monitoring network.. Continuation of network intercomparison studies, and initiation of an intercomparison study with the Province of Quebec.. Establishing contacts for data exchange with other major deposition databases in Canada and U.S.A. (MAP 3S, NAQUADAT, ADDS).. Completion of data analysis for plume washout study.. Participation in airborne cloud chemistry study (with AES) and the Cross-Appalation Tracer Experiment (CAPTEX). |
|--|--|

1981/82

1982/83

5.6 Acid Precipitation in Ontario Study (APIOS) and Sudbury Environmental Study (SES):

b) Sudbury Environmental Study

- . Completion of SES data analysis and first draft SES reports.

- . Completion and publication of all SES reports, and preparation of several scientific papers on SES results.

5.7 Emergency Response:

- . Completed report and manual on priority list of chemical liable to cause inhalation hazards in transportation emergencies.
- . Provided information on contaminants in emergencies - especially Medonte derailment involving loaded tank of anhydrous hydrogen fluoride.

- . Developed user-friendly hazardous gas dispersion program for portable microprocessor to provide for more rapid modelling capabilities.
- . Acquired standard sets of reference materials for provision of hazard information.

6.0 Noise Section

Noise section was transferred to Air Resources Branch for 1982-83.

D. EXPECTED ACHIEVEMENTS

1983-84

1.1 Office of the Director:

- a) Provision of internal liaison, policy advice, external liaison with other government agencies, and research management
- especially in the areas of hazardous contaminants policy, acid rain abatement negotiations, and improving program delivery while decreasing resource allocations.
- b) Co-ordination and provision of centralized Administrative support services for Branch, and development and implementation of ARB business plan..
- c) Provide maximum opportunities for staff development and advancement through corporate manpower planning.
- d) Work with the Communications Branch to develop a program of information for the public regarding air pollution policies and practices.

1.2 Board of Negotiation:

Final authority in settlement of claims for injury or damage to vegetation and livestock caused by contaminants. Approximately five (5) hearings annually.

1.3 Farm Pollution Advisory Committee:

Assessment of disposal of animal waste in relation to normal farming practices. Approximately 25 meetings held annually.

2.0 Air Quality and Meteorology Section:

1983-84

2.1 Regular Work:

- a) Process approximately 3 million air quality and meteorological data points produced by network stations. Prepare annual reports -quality of air in Ontario indicating trends and relationship with criteria.
- b) Publicize Air Pollution Index for nine (9) cities and issue Alerts as necessary.
- c) Conduct instrument selection, maintenance, replacement and calibration, providing quality assurance for data from Ontario's air monitoring network.
- d) Provision of advice on air pollution control abatement strategies with use of models and data interpretation.
- e) Provision of meteorological expertise including weather forecasts, air parcel trajectory analysis and testimony during court cases and hearings.
- f) Provision of air quality statistical and monitoring expertise for development of standards and criteria.
- g) Meteorological and modelling expertise for Ontario's radioactive release contingency program for nuclear power plants.
- h) Purchase and monitor installation of a portion of new telemetry system. This is to be completed over the next three (3) years. Install updated air quality index.

2.2 Acid Precipitation:

- a) Develop models of long range transport of pollutants for control of acid deposition and oxidants, and special models for unique releases such as hazardous contaminants.
- b) Develop and update emission inventory systems for use in models and in determining abatement strategies.
- c) Monitor work of contractors developing Acid Depositon and Oxidant Model.
- d) Provide model results for use in development of abatement strategies of Ontario's major sulphur dioxide emitters and for negotiation with other Provinces and Environment Canada for a Canadian approach to acid precipitation problem.

3. Emission Technology and Regulation Development:

<u>3.1 Regulation Development and Environmental Assessment Unit:</u>	EXPECTED 1983-84 COMPLETIONS
a) Development of air quality standards, guidelines and regulations.	4
b) Production of ambient air sampling and analytical procedures for new contaminants.	12
c) Evaluation of Environmental Assessment Projects on the basis of air quality impact.	30
d) Monitoring of U.S. legal and administrative action on acid rain.	continuing
e) Restructure Vehicle Emissions Unit Program to increase efficiency.	
f) Support the development of industrial and urban source control measures connected with acid rain reduction.	

3.2 Control and Process Technology Unit:

- a) Participation in task forces and
Committees re. control technologies:
 - . for Oxidant reactants,
 - . for Hazardous Contaminants.
- b) Completion of Source Book for industries not yet included fully
- steel, Pulp and Paper, general combustion sources.
- c) Assistance to Regions and Branches (e.g. SWARU).
- d) Review of new technologies.
- e) Development of Industrial guidelines.

3.3 Source Measurement Unit:

1983-84

- a) Trace Organic Contaminants
 - . Final project report on two garbage and one sludge incinerator.
- b) Continous Emission Monitoring
 - . Evaluation of commercial continuous emission monitors at a kraft recovery boiler stack, experimental program.
 - . Reconstruction of MEMS to be completed and evaluated.
 - . Experimental evaluation of continuous monitors for lead and asbestos at Prestolite and Raybestos.
- c) Nanticoke Environmental Management Program and Sudbury Environmental Study
 - . Report on sampling at the Texaco co-recovery boiler stack to be completed.
 - . NEMP expected to be completed. Summary emission report to be considered.
- d) Witnessing and Evaluation of Source Emission Test at Industries
 - . 50-70, depending on demand from Regional Offices
- e) Hazardous Pollutants and Odours
 - . Complete fabrication and initiate a program on investigation of solid sorbents for hazardous and odourous substances.

3.4 Vehicle Emission Unit:

1983-84

- a) Test Centre Program
 - . Vehicle Inspections:
 - Spotchecks
 - Dealerships
 - . Lectures/Demonstrations
 - Colleges Visited
 - Students Addressed
 - . Public Complaints & Enquiries Processed
 - . Service Stations
 - Visits
 - . Muffler Shop Visits
 - b) Special Projects & Support Staff
 - . Fuel Economy
 - Car Tests
 - c) Smoke Control Program
 - . Smoke Emissions:
 - Vehicles Stopped
 - Prosecutions
 - . Fines
 - . Pending
 - . Dismissed
- To be
determined
as a
result
of
program
restructuring

4.1 Regular Work:

- a) All complaints from public to be investigated and reported on.
- b) Approximately 50 proposed and existing industrial sources to be surveyed plus any additional requests from regions.
- c) Number of station visits and samples collected will depend on total number of complaints and assessment surveys conducted.
- d) Existing excessive contaminant level guidelines for soils and vegetation to be reviewed and channeled for approval through the air standards setting committee.
- e) 8 research projects have been started and more are anticipated as the growing season develops.
- f) Efforts will be made to co-ordinate the development and rationalization of acceptable levels of contaminants in vegetables for human consumption and to determine threshold levels of contaminants in soils with respect to replacement or restoration.
- g) Prepare discussion papers on the effects of air pollution on agriculture.

4.2 APIOS Program

- a) Publication of the results of the baseline foliage chemistry survey.
- b) Sensitivity of varieties and cultivars of major Ontario agricultural crops to acidic precipitation to be evaluated using indoor simulation chambers.
- c) Assembly and trial operation of outdoor exclusion canopy system on field grown crops.
- d) Publication of initial results of soil chemistry trends from baseline study and re-sampling of 5 sensitive sites.
- e) Expansion of soil buffering curve experiments and publication of results.
- f) Development of sensitivity criteria as first stage of soil mapping.
- g) Sampling of incident precipitation, throughfall, stemflow and soil leachates to continue.
- h) Surveys to determine element storage and accumulation in biomass to be conducted.

5. Atmospheric Research & Special Programs Section: 1983-84

5.1 Regular Work - Management Support:

- a) Continued management and co-ordination roles described for past 2 fiscal years.
- b) Improvement in the management of emergency response capabilities.
- c) Development of oxidant control strategy.
- d) Increased program activity in the area of hazardous contaminants.
- e) Reduce Ministry's air pollution test load at Laboratory by 10% through co-ordinating role.

5.2 Monitoring & Instrumentation Development Unit:

- a) Numerous mobile air monitoring surveys as per Regional requests.
- b) Major study (8 weeks) re possible development of supplementary control system at Falconbridge.
- c) Possible demonstration of TAGA technology to EPA Region V in Michigan.
- d) Respond to major emergencies as required.
- e) Implementation of the preconcentrator with cryocooled prefocussing loop and high resolution gas chromatography and computerized data reduction into MAMU 1 for mobile volatile organic surveys.
- f) Positive identification of trace organic compounds in ambient air or emission plumes by preconcentrator with cryocooled refocussing loop, high resolution gas chromatography.

5.2 Atmospheric Contaminants & Research Planning Unit:

Research Grants Program:

Funds for this program have been transferred to the Research Office of Policy and Planning Branch.

- a) Air Resources Branch will continue to administer the program and grant applications have been solicited and grants will be awarded as previously - except that the awards will be reviewed and approved by the Research Officer.

1983-84

Research Grants Program: - continued

- b) A research planning committee will be instituted, building on existing Research Grants, to prioritize research directions.
- c) Air Resources Branch will continue to monitor and manage RAC-funded projects related to air pollution matters.

Hazardous Contaminants:

- a) Major role expected in expanded hazardous contaminants program.
- b) Co-ordination of hazardous contaminants activities within the Branch.
- c) Providing input to the new Hazardous Contaminants and Standards Setting Branch.
- d) Co-ordination of regional field study on inhalable particulates using automatic dichotomous samplers.
- e) Participation in organic vapours sampling absorbent tube development program.
- f) Development of viable sampling method for volatile or labile airborne particulate matter.
- g) Further dossiers on hazardous contaminants will be developed.
- h) Microprocessor based information system will be used to update our priorities for contaminants, collecting information as it becomes available.
- i) Access to commercial data bases will be expanded.
- j) Lottery funded study of the effect of coke oven emissions in mutagenicity tests, so as to develop a PAH standard, will be initiated and managed.

1983-84

5.4 Nanticoke Environmental Management Program:

- a) Continued routine monitoring and publication of two key reports, viz (i) an analysis of air pollution episodes at Nanticoke; (ii) air quality trends and industrial impact at Nanticoke.
- b) Development of a mathematical model for air quality in the Nanticoke area.
- c) Execution of a special study into characteristics of thermal internal boundary layer.
- d) Reorganization of program, including network re-design and transfer of routine monitoring responsibilities to the West Central region in early 1984, with a view to program termination in the mid-1980's.

5.5 Ambient Trace Contaminants Monitoring:

- a) Acquisition, testing and exploration of the new data acquisition and TAGA control system.
- b) Software development for automatic acquisition of meteorological parameters.
- c) Modification of standard TAGA/DATA programmes to include "environmental" parameters.
- d) Testing and implementation of the zero air source.
- e) Initiation of new hardware development programme for Direct Insertion Probe modification to accept standard cartridges used in the unit for preconcentration of organics from ambient air.

1983-84

5.6 Acid Precipitation in Ontario Study and Sudbury Environmental Study:

Acid Precipitation Study

- a) Continued monitoring and data analysis from the deposition network.
- b) Continued reports on APIOS data and their interpretation, including wet and dry deposition rates across the province, air and precipitation quality measurements at background locations, sources areas of acid deposition, etc.
- c) Implementation of all recommendations in quality assurance auditor's report.
- d) Continued participation in the AES/MOE cloud chemistry and physics study, and the CAPTEX tracer experiment.
- e) Continued network intercomparison studies: analysis of data and reporting of conclusions.

Sudbury Environmental Study

Papers in scientific journals, and at conferences, on SES results.

5.7 Emergency Response:

- a) Continue to co-ordinate and manage emergency response capability within ARB.
- b) Further develop portable microprocessor-based dispersion model to include heavy gas model.
- c) Provide hazard information during emergencies.

6.0 Noise Section:

- a) Process 10 new municipal noise by-laws.
- b) Finalize new policy statements on rail noise and vibration in new subdivisions.
- c) Revise 2 existing policy statements on traffic noise from freeways and aircraft noise near airports.
- d) Revise 8 technical publications supporting Model Municipal Noise Control By-Law.
- e) Revise 5 training manuals and syllabus for courses in Acoustics Technology and provide training to municipal staff.
- f) Develop 5 planning guidelines for noise control and non-ionizing radiation and vibration with respect to:
 - i) Land use planning,
 - ii) Certificate of Approval procedures,
 - iii) Blasting in quarries and pits,
 - iv) Industrial and stationary noise sources,
 - v) Construction sites and construction equipment.

VOTE 2102

Item 03:

WATER RESOURCES ACTIVITY

A. ACTIVITY ROLE AND OBJECTIVES:

ROLE:

To develop and monitor the results of plans and programs:

- (a) to protect and upgrade water quality in lakes, rivers, streams and groundwater;
- (b) to develop water resources and provide for the fair sharing and conservation of available resources for multiple uses;
- (c) to protect the public from contaminants in water and fish.

OBJECTIVES:

1. To assess the presence of waterborne pollutants and to determine their pathways and effects on water quality and aquatic ecosystems.
2. To develop regulatory mechanisms and management techniques to protect drinking water quality, and surface and ground water quality and uses.
3. To evaluate conditions to the Great Lakes and determine plans for the protection and enhancement of water quality.
4. To provide expertise on drinking water control technology and on drinking water treatment processes.

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

WATER RESOURCES BRANCH

<u>SECTIONS</u>	<u>BUDGETS (\$000's)</u>			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
1.0 Director's Office	97.0	123.0	162.0	2	2	2
2.0 Administration & Data	418.0	452.9	539.0	14	14	15
3.0 Hydrology & Monitoring	1,120.0	1,273.3	1,430.0	28	28	29
4.0 Limnology	897.0	1,184.0	1,230.0	31	33	29
5.0 Great Lakes	2,114.5	2,332.0	2,145.5	26	26	26
6.0 Cartography & Drafting	293.0	324.5	355.0	11	11	11
7.0 Quality Protection	1,761.0	2,126.5	2,113.5	31	32	31
8.0 Water Supply & Pollution Control*	<u>500.0</u>	<u>548.0</u>	<u>657.3</u>	<u>11</u>	<u>11</u>	<u>11</u>
TOTALS	<u>7,200.5</u>	<u>8,363.5</u>	<u>8,632.3</u>	<u>154</u>	<u>157</u>	<u>154</u>

* Transferred from Pollution Control Branch.

C. MAJOR ACCOMPLISHMENTS

1981-82

1982-83

1.0 Director's Office

- . Integrated industrial wastewater treatment program in newly organized Quality Protection Section.
- . Increased emphasis on hazardous contaminants programs for the Great Lakes and ground water quality protection.
- . Assumed responsibility for ground water development.
- . Continued enhanced monitoring for trace contaminants in the Provincial Water Quality Network.
- . Jointly published with Environment Canada an Environmental Baseline Report of the Niagara River.

- . Assumed responsibility for policy development and review for municipal pollution control, municipal water supply and private water supply programs.
- . Participated in the completion of the report on the impacts of acid rain in support of the Canada-US memorandum of intent.
- . Presented the results of the Grand River Basin Water Management Study to municipal officials and received their responses. Arranged for cooperative studies with conservation authorities and municipalities for the Lake Simcoe and Toronto area watersheds.

2.0 Administrative and Data Services

2.1 Administrative Services
Unit

- . Service was extended to nine additional staff members who transferred inward from the Waste Management and Project Coordination Branches.

- . Service was extended to 11 additional staff members who transferred inward from the Pollution Control Branch.

1981-82

1921-83

2.2 Data Entry

. Maintenance of three computerized data bases continued with the addition of the following records:

. Maintenance of three computerized data bases continued with the addition of the following records:

Water Well Info. System	7,339
Sample Info. System - Rivers & Lakes	9,000
Sample Info. System - Great Lakes	10,556

Water Well Info. System	7,476
Sample Info. System - Rivers & Lakes	10,000
Sample Info. System - Great Lakes	11,000

2.3 EDP Coordination

. A mini-computer was relocated at Head Office (1 St. Clair) from the Toxicity Laboratory in an endeavour to cope with increasing needs at the current level of funding. The Toxicity Laboratory has replaced this facility with micro-computers.

. User training of the mini-computer, program development and program conversion commenced following a "refit" of the hardware.

3.0 Hydrology & Monitoring

3.1 Ground Water Protection

. Completed 19 assessments and reviews dealing with gas from landfills, liquid and radioactive wastes, and tailings and dredging disposals.

. Completed technical reviews of 18 waste disposal and associated operations in Ontario for the Environmental Approvals Branch, the Waste Management Branch and the Regions.

. Reviewed consultants submissions for RAC Solicited Proposal #161 (Field Measurement of Infiltration Through Landfill Covers) and investigated

. Completed an exhaustive review, and prepared a detailed submission to

3.1 Ground Water Protection (cont'd)

1981-82

- phosphate ester lubricants TCPL compressor station #127.
- Continued participation in the development and review of procedures, guidelines and policies on the restoration of water supplies, the reasonable use of ground water near major potential sources of contamination, the preparation of hydrogeologic submissions by consultants, the disposal of used pesticide containers into landfills, and the selection of small landfill sites in Northeastern Region.
 - Continued to review and provide technical assistance to the Environmental Hearing Board on the York Sanitation #4 landfill site and the Maple landfill site.
 - Continued participation on the Ad Hoc Committee on the Underground Storage of Petroleum Products to address the prevention and clean up of petroleum product spills and the pre-1974 underground tank replacement program.

1982-83

- the Environmental Appeal Board on York Sanitation Landfill #4. Assisted extensively the Legal Services Branch, the Environmental Approvals Branch, and the Environmental Hearing Board on this subject.
- Reviewed 5 major documents on guidelines and procedures for the Lab Services Branch, the Environmental Approvals Branch, the Pollution Control Branch, and the Waste Management Branch.
 - Developed a proposal to study the impact of pesticide disposal in a landfill in Southwestern Region (for Waste Management Branch).
 - Provided committee memberships on Working Group V of the Water Management Steering Committee, the Landfill Gas Committee, the Maple (Keele Valley) Landfill Committee, the Technical Steering Committee - Uniroyal Site, Elmira, Salford Landfill Committee, ASTM Committee D-18.14.03 (chairman).
 - Served as Branch Co-ordinator for hazardous waste definition, and assisted the Waste Management Branch in reviewing associated

3.1 Ground Water Protection (cont'd)

1981-82

1982-83

documents on "Waste Management and Legislation".

3.2 Ground-Water Supply

- . Completed ground-water surveys for eight municipalities; supervised seven test-drilling projects.
- . Carried out Private Services Funding project investigations for three projects.
- . Investigated ground-water interference problems for three municipal projects, including the York-Durham project.

- . Completed surveys and reports of ground-water supply potential for eight municipalities, and test drilling and well construction projects for 10 municipalities.
- . Carried out well interference problem investigations at four MOE project sites.
- . Carried out Private Services Funding project (PSF) investigations for five projects.

3.3 Water Well Management

- . Issued 451 licences to drilling and boring contractors in 1981; 11 contractors licensed for the first time; prosecutions against two drillers resulted in successful prosecutions on four charges.
- . A total of 8,930 water-well records were received from the contractors for processing.
- . Completed amendments to Sections 21 and 22 of the OWR Act, which received passage late in 1981; revised regulations prepared under the authority of the amendments.

- . Issued 459 licences to drilling and boring contractors in 1982; 20 contractors licensed for the first time; prosecutions against three drillers resulted in successful prosecution on seven charges.
- . A total of 7,341 water-well records were received from contractors for processing and storage in computer files.

	<u>1981-82</u>	<u>1982-83</u>
3.4 <u>Ground-Water Mapping</u>	<ul style="list-style-type: none"> . <u>Completed mapping</u> for one ground-water probability map and one ground-water susceptibility map. . <u>Published maps</u> "Flowing Wells in Ontario", Ground Water Series, Bulletin 2-200. 	<ul style="list-style-type: none"> . <u>Published</u> 2 ground-water probability maps. . <u>Completed</u> data assessments and/or cartography for 3 probability maps. . <u>Published</u> 5 ground-water susceptibility maps; completed mapping for 14 ground-water susceptibility map sheets.
3.5 <u>Water Quantity</u>	<ul style="list-style-type: none"> . <u>Completed report</u> "Water Resources of the Humber and Don River Basins". . <u>Published</u> "Water Quality Trends in Ontario, 1964-1979". . <u>Completed</u> sampling and data analysis of stream water, sediment quality and biological monitoring, in Mimico, Humber and Don Rivers, and in the Toronto nearshore area, all as part of the Toronto Area Watershed Management Study (TAWMS). . <u>Completed</u> streamflow quality trend analysis for all long-term water quality network stations in Ontario. . <u>Completed</u> a study and a report on the feasibility of using ground water for augmenting flows in the Avon River near Stratford. 	<ul style="list-style-type: none"> . <u>Completed a draft</u> of the Permit To Take Water Policy Manual revisions, to update and clarify the manual for use in the administration of the Permit To Take Water and interference complaint investigation programs by the Ministry. . Through the Ground-Water Liaison Committee, <u>completed and circulated</u> Ministry-wide a position paper on the application of drinking water objectives to communal ground-water supplies. . <u>Published</u> "Water Resources of the Holland and Black River Basins"; <u>assembled base maps</u> for "Water Resources of the Upper Portions of the Etobicoke Creek, Mimico Creek, Humber River and Don River Basins".

3.5 Water Quantity (cont'd)

1981-82

- . Provided technical input and guidance to the NEC at three sector hearings on the significance of ground water in various land development proposals.

1982-83

- . Completed field work and data compilation for "Water Resources of the Credit River Basin" report.
- . Completed streamflow quality trend analyses for all long-term water quality stations in the Southwestern Region.
- . Reviewed and provided technical comments relating to ground and surface waters for approximately 20 environmental assessment reports.
- . Provided technical advice and guidance on ground water to Metropolitan Toronto and Region Conservation Authority in their "Environmentally Sensitive" mapping project.

3.6 Networks

- . Continued enhanced monitoring for toxic contaminants at selected urban and surveillance background stations in the Provincial Water Quality Networks (PWQN).
- . Initiated a benthic sediment program at 15 sites to scan for a variety of trace contaminants.
- . Completed a report "Water Quality Flagging - Development of a Method

- . Completed total phosphorus loading estimates (1981-82) for the 1982 IJC Water Quality Board Report; completed multi-strata loading estimates (1980-81) for 15 Great Lakes tributaries in the Enhanced Tributary Monitoring Program.
- . Published: "Temporal Variation of Southwestern Ontario Streamflows and the Possible Influence of Agricultural Land Drainage".

3.6 Networks (cont'd)

1981-82

- for Determining Water Quality and Identifying Potential Problems".
- . Provided water quality information for the Ministry MBR publication for 1981.
- . Provided loading estimates for a number of water quality parameters for inclusion to the 1981 Water Quality Board Report and as input to the Lake Erie Work Group.
- . Prepared 2 interpretive reports on the influence of agricultural land drainage on streamflows, and the Great Lakes tributary monitoring.
- . Published: "Selected Streamflow Data, Ontario, 1980".
- . Published: "Data for Observation Wells in Ontario, 1980.
- . Provided seven municipalities with 1980 hydrographs and updated analysis of observation well data. Five observation wells in the area of the City of Guelph were re-instrumented for improved data acquisition.

1982-83

- . Published: "Enhanced Great Lakes Tributary Monitoring in Ontario: 1980 Water Quality Status Report".
- . Completed several significant network planning activities, including: Regional reviews, the development of a computer program to predict test requirements; the identification of a core list of surveillance background stations; the delineation of the terminus of mixing zones downstream of selected point sources.
- . Initiated biological monitoring at selected locations in each Region to monitor inorganic and organic trace contaminant levels in young-of-the-year fish; continued enhanced monitoring for toxic contaminants and the benthic sediment survey with twelve new stations added in background areas.
- . Approximately 100 requests for ground-water data were furnished to consultants, universities, government agencies and the public.
- . Published: "Ground-Water Quality Fluctuations - A Pilot Study";

3.6 Networks (cont'd)

1981-82

1982-83

established intensive ground-water water-quality sampling at 26 well sites across all six MOE Regions.

3.7 Geotechnical Services

- . Extensive geophysical support was provided to four Regions to resolve 10 cases associated with industrial waste disposal sites, ground-water contamination; and faulty well construction.
- . Geophysical methods were used to map sand and gravel deposits in the Ministry's APIOS program and for the Ministry of Natural Resources.
- . Completed a program of sampling of shallow wells in the Sharbot Lake area to determine the relationship between airborne gamma ray anomalies and uranium concentration in ground water.

- . Provided geophysical support to the Regions on 16 requests associated with locating buried waste disposal drums, local ground-water contamination problems, siting of landfills, and faulty well construction.
- . Located test-drilling sites for municipal wells at Wiarton and White River.
- . Borehole geophysics was carried out in 3 deep test holes in the Ministry of Natural Resources' oil shale resources assessment program in southern Ontario.

3.8 APIOS

- . Completed a study and progress report on the effects of acidic precipitation on ground-water (supplies) in the Sudbury area.
- . Completed extensive sampling and monitoring of ground-water quality and quantity in the calibrated watersheds in context of the APIOS studies in the area.

- . Completed the inventory of the acidity of private, domestic ground-water supplies in the area between North Bay and Timmins; 135 sites were tested; started an inventory of the effects of acidic lake waters on domestic supplies in the Sudbury area.
- . In accordance with the 5-year plan,

3.8 APIOS (cont'd)

1981-82

1982-83

continued ground-water quantity and quality studies in the APIOS calibrated watersheds near Dorset; continued extensive sampling of ground waters, the installation of piezometers and observation wells.

- . Published two final progress reports on past inventory studies in drinking water in Muskoka/Haliburton and Sudbury areas.

3.9 Miscellaneous

- . A ground-water course was given in one Regional Office.

- . A ground-water course entitled "Ground Water for Environmental Officers" was given in four Regional offices by members of the Section.

4.0 Limnology Section

4.1 APIOS

- . Twenty watershed chemistry stations in Muskoka-Haliburton were monitored for export of H⁺ and selected metals. Results were related to watershed geology. The spring (snow melt) pH depression was quantified for several calibrated watersheds. Twenty-three technical reports prepared.

- . Sudbury Environment Study final report completed. Laboratory and field work at Dorset Lab site begun on Aluminum speciation and Al toxic subcomponents. Effects of pH and Al on benthic invertebrates begun. Studies on accumulation of lead in lake sediments relative to atmospheric deposition completed. Thirty technical reports prepared.

1981-82

1982-83

4.2 Marshlands

- . Experimental additions of sewage to the artificial marsh plots at Listowel continued through 81-82. Some problems with winter operations. Effluent P removal during summer was very effective (0.1 mg P/L).

- . Listowel artificial marsh project continued with assessment of measurements of flow rates and retention time effects on nutrient transformation. The first year of data at a natural marsh site (Bradford) collected after 2 year background data (no sewage effluent). Two technical reports on waste treatment by marshlands prepared.

4.3 Great Lakes

- . Monitoring of nearshore Great Lakes by municipal water intakes continued at 17 sites between Thunder Bay and Brockville. Summary reports on changes in nutrients and algal of Lakes Erie and Ontario published.

- . An assessment of projected growth of Cladophora in Georgian Bay after increased nutrient loading from proposed new STP discharges was completed and published.
- . The final year of intensive study of the Bay of Quinte following P loading reduction was completed (Fed/Prov. joint study).

4.4 Regular

- . Approx. 750 lab analyses (microscopic life forms identification) completed for Regions. Several workshops and seminars in which staff participated at both local (e.g. interministerial) and international levels (Canada, USA Norway, Sweden)

- . Approximately 750 lab analyses completed for Regions. Two technical reports on the trophic status of Lake Simcoe prepared. Major Committee work led to a report in support of the Canada/ USA Memorandum of Intent on acid emissions and deposition.

5.0 Great Lakes Section

5.1 Investigation and Assessment Unit

	<u>1981-82</u>	<u>1982-83</u>
<u>Lake Superior</u> Monitoring the impact of pulp and paper mills	<ul style="list-style-type: none">. Limited Use Zones (mixing zones) associated with pulp and paper mills were developed and effluent requirements were forwarded to the Regional staff for inclusion in control orders.	<ul style="list-style-type: none">. Site specific studies in Jackfish Bay provided information on effluent guidelines for toxic contaminants provided for use in Control Order for Kimberly Clark pulp and paper mill.
<u>St Marys River</u> Monitoring of water quality to assess impact of industrial and municipal discharges and the effect of Great Lakes Power redevelopment	<ul style="list-style-type: none">. Mixing zones for Algoma Steel discharges were developed and effluent requirements were defined for use by Regional office.. Measures to minimize the impact of construction activities resulted in the protection of the St. Marys Rapids.	<ul style="list-style-type: none">. Control Order was issued to Algoma Steel Corp. Ltd. to limit discharges of phenol, ammonia, cyanide and hydrogen sulphite which in turn should eliminate transboundary pollution.. The construction of Great Lakes Power was completed with no adverse effects on the river quality.. Investigations for a proposed new sewage treatment plant were initiated.
<u>Lake Huron</u> Monitoring of nearshore areas including Georgian Bay and the	<ul style="list-style-type: none">. Eutrophication levels and status of benthic populations were identified, as well as sensitive areas, for use by Ministry Regional offices, IJC and planning agencies.	<ul style="list-style-type: none">. Draft reports on nearshore areas of Georgian Bay harbours and embayments, Serpent and Spanish rivers were prepared.

Lake Huron (cont'd)

1981-82

1982-83

North Channel as part of the intensive 1980 year studies.

- . Reports on macrobenthos communities along the nearshore areas of Lake Huron, Georgian Bay and the North Channel were completed.
- . Recommendations for development of effective control programs to maintain/enhance water quality conditions.

St. Clair River
Monitoring of water quality and public health indicators to assess effectiveness of remedial measures undertaken at the industrial and municipal sources.

- . Effluent requirements for the industrial discharges were recommended. Emphasis was focused on trace organics which were identified from the St. Clair River Organics Study.

- . Studies were initiated to extend shore-based outfalls to locations where river currents should result in efficient mixing.
- . Polysar and Dow Chemical extended some of their shore-based outfalls.

Detroit River
Monitoring of public health indicators along the Ontario shoreline of the river.

- . Provided recommendations on the need for control of point and non-point sources.

- . Continued to recommend further remedial actions in terms of sewer separation and expansion of the Little River, Windsor, and Amherstburg sewage treatment plants.

1981-82

Niagara River
Monitoring of water quality, sediment and aquatic biota in the river to assess impact of point and non-point sources, to establish trends in trace contaminants and to provide recommendations for remedial measures.

- . An Environmental Baseline Report of the Niagara River was published jointly with Environment Canada.
- . Identified relative significance of U.S. pollutant inputs and exceedances of water quality objectives.
- . Provincial input to international task force.

St. Catharines
Monitoring of water quality in the nearshore to assess impact of point sources on local bathing beaches (bacteriological).

- . Regular monitoring of water quality to ensure protection of water uses.
- . Advised City officials on the water quality of beaches and effectiveness of sewerage separation program.

Toronto Waterfront
Monitoring water quality as affected by municipal drainage and discharge tributary inputs; assessing the effects

- 1982-83
- . Recommendations forwarded to New York State Department of Environmental Conservation on SPDES Permits to limit discharges of trace organics.
 - . Elaborated and confirmed impacts of U.S. and Canadian sources.
 - . Provincial input to international task force.
 - . Results of preliminary survey forwarded to regional/district offices with preliminary recommendations for remedial programs.
 - . Continued to provide information on the safety of beaches and recommended measures for point and non-point source inputs.
 - . Updated and continued assessment effects of dredging Keating Channel

Toronto Waterfront (cont'd)

1981-82

1982-83

of projects construction activities, e.g. dredging, disposal and lakefilling.

. Reported on the effects of dredging and lakefilling, safety of water supplies during lakefilling operations.

and lakefilling at the Eastern Headland, safety of drinking water supplies.

St. Lawrence River

(i) Cornwall/Massena

Monitoring of trace contaminant in water, fish and sediment to document existing sources of trace contaminants.

. Identification of source(s) of trace contaminant discharges (mainly on the U.S. side - Grasse River) and sources of bacterial contamination (Domtar and sewage treatment plants).

. Mixing zones were developed for sources along the Canadian shore, and recommendation for effluent requirements to minimize impact on the river.

(ii) Cardinal (Iroquois/Morrisburg)

Monitoring of bacteriological water quality to assess impact of non-chlorinated STP effluents on local water use.

. Results of preliminary surveys forwarded to regional and district offices for use in development of remedial programs.

. Further monitoring conducted to confirm earlier findings.

5.2 Surveillance Unit

1981-82

1982-83

Lake Erie
Water quality monitoring of the western and eastern basins of the lake with emphasis on eutrophication parameters. Intensive monitoring activities at Nanticoke to assess the impact of industrial developments on the nearshore areas of the eastern basin.

- . Identified significant decline in total phosphorus levels in the western basin of Lake Erie as a result of the provincial phosphorus removal program.
- . Identified effluent requirements for the industrial complex of Nanticoke for use by Regional office control order.

- . Summary reports on studies carried out at Nanticoke for the period 1969-78; input to the IJC reporting on the Lake Erie intensive studies.
- . Established a baseline for the Grand River mouth area to assess impact of future development in the Grand River watershed.

Lake Ontario
Assessment of trends in near-shore nutrient and phytoplankton levels to maintain effects of nutrient input abatement.

- . Identified that levels of total phosphorus declined in response to the provincial phosphorus removal program.

- . Confirmation that total phosphorus levels continued to decline as identified by spring water quality conditions.

Hamilton Harbour
Identify the sources of the contaminants and their effects in the harbour;

- . Confirmation of chemical relationship governing oxygen depletion processes in harbour as affected by municipal and industrial discharges.

- . Developed model linking oxygen depletion and industrial and municipal inputs; preliminary effects of remedial programs identified.

Hamilton Harbour (cont'd)

1981-82

1982-83

effective remedial programs to reduce oxygen depletion water quality deterioration.

- . The effects of the flow from Hamilton Harbour on the nearshore area of Lake Ontario and on water intakes and circulation patterns was determined for use in development of remedial action plan.
- . Assessment of potential future remedial options and effectiveness.
- . Sampling of sediment, water and biota.

Bay of Quinte
Identify potential sources of sediment contamination by trace organics, level of uptake by biota.

5.3 Environmental Impact Assessment Unit

(a) Hydro Assessments

- . Prepared evidence for certificates of approval to discharge cooling water at Bruce 'B' G.S., Pickering 'B' G.S., to locate intakes and outfall for Darlington G.S.
- . Collection of radioactivity data for five sources on the Great Lakes.
- . Confirmed impacts on Lake Erie of eliminating tempering at Nanticoke G.S.
- . Assessed fish protection device for intakes at Bruce 'B' and Darlington G.S.
- . Supervised the collection of ambient radioactivity data on the Great Lakes.

(a) Hydro Assessments (cont'd)

1981-82

1982-83

- . Assessed proposed generating station on Little Jackfish River.
- . Prepared conditions for C of A for cooling water discharge at Darlington G.S.

(b) Marine Construction

- . Ensured protection of the environment for Oshawa Harbour dredging, spoils confinement at Seaway Island, St. Clair River, A.E. Crookes park filling program Lake Ontario.
- . Preparation of guidelines and Register for the Evaluation of Great Lakes Dredging projects January 1982.

- . Continued protection of environment on Oshawa Harbour confinement facility and dredging, Port Credit dredging.
- . Continued provincial participation in the IJC dredging subcommittee.
- . Preparation of Toronto Waterfront sediment evaluation report. Dive surveys to identify effects of Headland construction.
- . Completed Vol. 1 and 2 (pipelines and highways) update of the 1976 construction handbook.

(c) Environmental Assessments

- . Co-ordinated Branch reviews and provided technical assistance on 15 individual EA's; 10 draft EA's; 6 presubmissions; 4 Class EA's and 5 pipeline environmental reports and OH Lake Erie cable crossing; Keating Channel Dredging Project.

- . Reviewed and co-ordinated review of 5 individual and 10 presubmissions including the Keating Channel presubmission.
- . Final comments on proposed Lake Erie cable crossing.

(d) Marine Operations

<u>Program</u>	<u>1981-82</u> (No. of vessel survey days)	<u>1982-83</u> (No. of vessel survey days)
Lake Superior	12	5
Lake Huron	10	13
Lake Erie	9	45
Lake Ontario	258	116
St. Marys River	18	12
St. Clair River	12	12
Detroit River	6	14
Niagara River	19	16
St. Lawrence River	12	18
Total	356	251

6.0 Cartography & Drafting Section

<u>Category</u>	<u>1981-82</u>			<u>1982-83</u>		
	<u>Cartography</u>	<u>Drafting & Graphics</u>	<u>Total</u>	<u>Cartography</u>	<u>Drafting & Graphics</u>	<u>Total</u>
Maps, Plans	123	183	306	143	175	318
Figs., Artwork	164	923	1,087	138	988	1,126
Internal Repro.	4,620	15,484	20,104	4,120	15,120	19,240
Contract Repro.	918	2,070	2,988	895	2,025	2,920
Maps Printed	10,263	-	10,263	16,104	-	16,104
Bases Requested	209	134	343	245	140	385

7.0 Quality Protection Section

1981-82

1982-83

7.1 Hazardous Contaminants

- . Published 1981 edition of "Guide to Eating Ontario Sport Fish" in 3 volumes - 1056 locations
- . Published 7 Environmental Health Bulletins for 182 locations.
- . Published first set of Dioxin in fish results.
- . Developed a contaminants information and Assessment Group and prepared and distributed Fact Sheets on 30 chemicals.
- . Published 1982 edition of "Guide" book in two volumes for 1102 locations.
- . Published 4 Environmental Health Bulletins for 120 locations.
- . Prepared 26 new and 15 revised Fact Sheets for Contaminants Handbook.
- . Prepared an interim priority list of 13 Drinking Water Contaminants for the Strategic Planning Committee
- . Participated in development of candidate PWQO's for chlorophenols and chloro benzenes

7.2 Industrial Organic Unit

- . Participated as Ontario representative on IJC Pulp and Paper Task Force
- . Developed Inter-Ministry documents on abattoirs
- . Initiated a review of hazardous trace contaminants, secondary treatment, rationale for fish toxicity and bacterial levels for industrial discharges using the Pulp and Paper Group specifically.
- . Represented Ontario on the IJC Petroleum Refiners Task Force.

7.2 Industrial Organics Unit (cont'd)

1981-82

1982-83

(MOE, OMAF AND MOH).

- . Developed an Industrial Wood Burning Technical Guideline.

- . MOE representative on Whey Bild Committee.
- . Developed Sawmill Technical Guidelines.
- . Provided Environmental and Technical Assistance to MI & T and ME & T on Pulp and Paper and Petroleum Refiners issues.

7.3 Industrial Inorganic Unit

- . Completed 3 reports concerning environmental aspects of water generated by uranium mining, thermal power generation and foundry operations.
- . Information papers on Environmental Aspects of Acid Mine Wastes and the Acid Rain Program, and mineral concentrate spills were completed.

7.4 River Systems Unit

- . Acted as project managers for four Basin Management Studies (Rideau River, Stratford-Avon, Lake Simcoe, Toronto Area).
- . Provided assistance and advice to regions on several major studies and 30 reviews of stormwater designs and environmental assessments for head office groups.

- . Managed Toronto Area, Stratford Avon, Lake Simcoe and Rideau River Studies.
- . Finalized 6 Technical Reports for Grand River Study.
- . Review report on basin management for future studies.
- . Developed several assessment

7.4 River Systems Unit (cont'd)

1981-82

- . Developed and reported on several assessment techniques for general and specific use in Ontario
- . Acid Rain - analysed data and calibrated a watershed model.

1982-83

- techniques for specific and general application
- . Supported Urban Drainage Policy Implementation Committee by writing or over-seeing summary policy statements, evaluating impacts of policies and developing design guidelines for urban drainage systems.
- . Acid Rain - managed two hydrological study contracts -developed a lake-chain model for use in Lake systems affected by acid precipitation.

7.5 Lake Simcoe Environmental Management Study

- . Study initiated, with terms of reference finalized. Technical programs initiated on agricultural runoff loadings and control. Lake monitoring to aid in evaluation of response to remedial measures carried out.

- . Agreement signed with South Lake Simcoe Conservation Authority. Technical liaison for agricultural and urban runoff loadings continue. Report on monitoring program giving phosphorus loadings from Holland Marsh and tributaries. Lake Simcoe monitoring report issued. Project initiated by grant to University for phosphorus budget within agricultural zones of Holland Marsh. A report issued on treatability of marsh pumpoff waters.

1981-82

1982-83

7.6 Stratford - Avon River Environmental Management Study

- . Carry out co-ordination duties and act on three technical committees.
- . Carry out technical studies published in 1982 - 1983.

- . Final report in draft (through contractor).
- . Special studies completed to verify recommendations regarding arboreal shading, manure handling, cattle access.
- . Approximately 45 of 48 technical reports in draft, final or published form.

7.7 Toronto Area Watershed Management Study

- . Study initiated with limited funds. Field reconnaissance study undertaken and draft report written (released in 1982 - 1983).

- . Study terms of reference finalized. Agreement reached with MTRCA and municipalities for support services.

By contract

- . Characterize quality in biota, sediments and water.
- . Develop coarse pollutant budget model.
- . Calibrate runoff model.
- . Developed methodology to link industries to contaminants.
- . Sediment/metals relationship characterized.

7.7 Toronto Area Watershed Management Study (cont'd)

1981-82

1982-83

Pollution Control Committee

- . Carry out studies of non-point sources.
- . Mapped extent of combined sewer and storm drainage sources.
- . Completed dry weather survey of 627 outfalls.
- . Detailed study of quantities of industrial organic and inorganic contaminants in combined sewage and runoff.

7.8 Policy Planning & Development

- . Develop and interpret Blue Book policies objectives, guidelines - reviewed 3 PWQO, mixing zone workshop, ground water quality interference policy.
- . Liaise with agencies on common concerns shared jurisdictions - eg. MOE/MNR Fishery-Water Quality roles.
- . Policy Manual - processed 15 new and existing policies.
- . Blue Book Implementation - revised 2 PWQO; restructured PWQO revision process; finalized "Reasonable Use" policy; issued surface water quality procedures manual.
- . Agency Liaison - eg. Weed harvesting guidelines, CORTS implementation SPOF.
- . Policy Manual - Processed 14 new or updated policies.

7.9 Aquatic Toxicology Unit

1981-82

1982-83

Regular

- . Routine toxicity testing completed for 15 effluents and field toxicity testing on 3 sites completed.
- . Toxicity testing programs for Northwestern gold mining and pulp and paper industries completed.
- . STP contaminants study and analysis completed.
- . St. Clair contaminants study completed.
- . Review of ammonia objective initiated.
- . Study of chlorobenzene toxicity initiated by contract.

Great Lakes

- . Spottail shiner collections completed with emphasis on Niagara River and Toronto waterfront.
- . Special PCB sampling of Lake Clear completed.

Regular

- . Routine toxicity testing completed for 14 effluents and 3 field toxicity studies completed.
- . Toxicity testing programs for Northwestern Region pulp and paper and gold mining industries completed.
- . STP contaminants draft report completed.
- . Contract let to develop candidate PWQO's for chlorophenols and chlorobenzenes.

Great Lakes

- . Spottail shiner collections completed for Niagara River, Toronto waterfront and Detroit River.
- . Special investigations using minnows for Lake Clear and Otonabee River.

7.9 Aquatic Toxicology Unit (cont'd)

1981-82

1982-83

- . Perch collections in English-Wabigoon continued.

Acid Precipitation

- . Aluminum toxicity quantified.
- . Dorset lab established.

- . Yearling perch monitored during spring runoff.

Acid Precipitation

- . On-site toxicity evaluation of stream runoff completed for lake trout and brook trout.

- . Embryo-larval tests and physiological evaluations completed for rainbow trout exposed to acid and high aluminum conditions.

8.0 Water Supply and Pollution Control Section

8.1 Municipal Water Unit

- . Initiated a comprehensive program to systematically document and/or develop policies and guidelines related to municipal water treatment and distribution. Four have been completed.

- . Provided guidance and assistance to Regional staff on policy interpretation; coordinated new program implementation; assessed program effectiveness; expedited new research projects to support programs, e.g.:
a) Report on fluoridation of

- . Coordinated and completed the Strategic Planning work program and three of the associated task reports in the control of hazardous contaminants in drinking water.

- . Finalized the Ontario Drinking Water Objectives Document.

- . Continued to develop policies and guidelines; five more packages have been drafted.

- . Continued research coordination

8.1 Municipal Water Unit (cont'd)

1981-82

1982-83

- | | |
|---|--|
| <p>water in Ontario were distributed to municipal officials, Health Units staff and Regional staff;</p> <ul style="list-style-type: none">b) Evaluation of water treatment systems and chemicals for water treatment. <p>. Participated in international, national and inter-agency committees, e.g.:</p> <ul style="list-style-type: none">a) Ten States-Ontario Water Works Standard Committee which completed the revision to "Recommended Standards for Water Works".b) AWWA/OMWA/MOE Liaison Committee. | <p>activities, e.g. evaluation of removals of toxics in water via activated carbon filtration.</p> <ul style="list-style-type: none">. Continued inter-agency committee and liaison activities, e.g.. Federal-Provincial Working Group on Drinking Water which formulated the Canadian Drinking Water Objectives. |
|---|--|

8.2 Private Water

- | | |
|--|--|
| <ul style="list-style-type: none">. 2 local Health Units provided with Public Health Engineering advice on public bathing beaches.. 5 cases where technical assistance was provided to MOE Regional Offices on private water supply.. 180 cases where assistance was provided to Medical Officers of Health on interpretations of water quality of private water supplies. | <ul style="list-style-type: none">. 1 local Health Unit provided with Public Health Engineering advice on public bathing beaches.. 12 cases where technical assistance was provided to MOE Regional Offices on private water supply.. 405 cases where assistance was provided to Medical Officers of Health on interpretations of water quality of private water supplies. |
|--|--|

8.2 Private Water (cont'd)

1981-82

- . 81 corrective measures recommended to private individuals and health units on individual water supplies.
- . 45 cases of assistance and information provided to health units and private individuals on home water treatment devices.
- . 2 seminars conducted on private water supplies.
- . Committees chaired or served, and documents published:
 - a) Inter-ministerial Committee on Guidelines for Environmental Health in Schools - (Chairman); have published a guidelines package.
 - b) Inter-ministerial & Advisory Committee on Public Swimming Pools; regulations have been prepared and approved by the Legislature.
 - c) Committee on Drinking Water Related Disease Outbreaks.
 - d) Committee on Home Water Treatment Devices Chairman; Guidelines have been published.

1982-83

- . 151 corrective measures recommended to private individuals and health units on individual water supplies.
- . 67 cases of assistance and information provided to health units and private individuals on home water treatment devices.
- . 1 seminar conducted on private water supplies.
- . Committees chaired or served:
 - a) Committee on Drinking Water Related Disease Outbreaks.
 - b) Executive Committee on Environmental Health and Accident Prevention.
 - c) Contingency Planning on Nuclear Spills.

8.3 Municipal Sewage Unit

1981-82

1982-83

- . Completed negotiations with the federal government to provide \$65 million over 3 years (starting 1982) to assist in the construction of municipal sewerage services in the Great Lakes Basin under the Canada-Ontario Agreement.
 - . Initiated a comprehensive program to systematically document and/or develop 40 policies and guidelines related to municipal sewage collection and treatment. Six have been completed.
 - . Assessed effectiveness of province-wide municipal sewage treatment plants operations; e.g. produced:
 - a) Compliance Assessment Report of Municipal Treatment Plants and Abatement Status in Ontario (1980)
 - b) Annual Operating Summary of MOE STPs (1980)
 - . Supported the Canada-Ontario Agreement and the associated work of the IJC; e.g.:
 - a) Provided 1980 annual status report on the pollution abatement efforts of Great Lakes
- . Co-chaired the Inter-ministerial Urban Drainage Policy Implementation Committee. The Committee has recently completed the draft Implementation Package consisting of Policy Implementation Strategy and three supporting Technical Guidelines.
 - . For approval received Policy 08-01 "Level of Treatment Required for STP's" which forms the corner-stone of all municipal sewage policies. Eight more policies and guidelines have been developed.
 - . Continued to assess the effectiveness of municipal STP operations; e.g. produced:
 - a) Effluent Concentrations and Loadings of STPs in Ontario (1981)
 - b) Annual Operating Summary of MOE STPs (1981)
 - . Continued to support COA and IJC work, e.g.:
 - a) Provided 1981 annual status report on the pollution abatement efforts of Great Lakes municipalities to IJC Water

8.3 Municipal Sewage Unit (cont'd)

1981-82

- municipalities for IJC Water Quality Board.
- b) Chairing and participating in several COA and IJC Task Forces.
- . Improved data management systems for municipal water treatment plants and wastewater treatment plants e.g.:
- a) Initiated the development of TUMMIS (computerized Total Utility Monitoring and Management Information System) which would store performance data for water and wastewater treatment facilities across Ontario, and automatically assess the plant's compliance with specific performance criteria. Progress of remedial actions instituted for plants out of compliance would also be assessed TUMMIS.
- b) Produced the "Municipal Water and Sewage works Listing of Ontario 1981".
- . Provided guidance and assistance to Regional staff on policy interpretation; coordinated new program implementation; assessed program effectiveness; expedited new research projects to support programs, e.g.

1982-83

- Quality Board.
- b) Participating in IJC Municipal Point Source Control Task Force and in IJC Non-Point Source Control Task Task Force.
- . Completed the development of Phase I of the TUMMIS (Total Utility Monitoring and Management Information System) which would store performance data for STPs and assess plant's compliance with specific performance criteria. Progress of remedial actions instituted for plants out of compliance would also be assessed. Several MBR reports on STPs performance have been produced by this system for submission to Management Board.
- . Continued new program implementation and research coordination activities e.g.:
- a) Successfully coordinated and completed the 3-year phase-in of the "Guidelines for Sewage Sludge Utilization on Agricultural

8.3 Municipal Sewage Unit (cont'd)

1981-82

coordinated optimal pollution control strategy developments in Rideau, Stratford/Avon, Toronto Area watersheds.

- . Chaired and participated in international, national and inter-agency committee e.g. Ten States-Ontario Sewage Works Standards Committee. FACE Sewage and Water Works Inventory Committee, MOE-OMAF Sludge Guidelines Implementation Committee, MOE-MEA Liaison Committee.

1982-83

Land". Program now becomes routine and has been transferred to Waste Management Branch and the Regions. Final report on the 3-year phase-in of the program has been completed.

- b) Completed two research projects aimed at generating information and guidelines to assist municipalities in using sewer-use by laws to effectively control industrial discharges into municipal sewerage systems.
- . Continued inter-agency committee and liaison activities, e.g.:
 - a) Chaired the Federal-Provincial Working Group on Waste-water Disinfection. The Group formulated the national strategy on wastewater disinfection (consistent with Ontario Policy).
 - b) Updated Ontario Section of the "National Inventory of Municipal Water and Wastewater Systems (1981)".

D. EXPECTED ACHIEVEMENTS

1983-84

1.0 Director's Office

- . Increase resources for municipal pollution control and water supply policy and review for ground-water protection while complying with overall resource constraints.
- . Support the development and evaluation of criteria to protect the aquatic environment and the setting of objectives and standards for drinking water and the quality of surface and ground waters.
- . Support the development and implementation of the corporate strategic planning process.
- . Continue close collaboration with regional offices in identifying pollution control requirements in urban industrial and agricultural areas.

2.0 Administrative and Data Services

- 2.1 Administrative Services Unit . Continued delivery of support services to the technical sections of the Branch.
- 2.2 Data Entry . Continued delivery of data processing services to the technical sections of the Branch.
- 2.3 EDP Coordination . Facilitate increased usage of the mini-computer and evaluate the suitability of micro-computers for certain expressed needs.

1983-84

3.0 Hydrology and Monitoring

- 3.1 Ground-Water Protection . Provide, on demand from the Environmental Approvals Branch, the Waste Management Branch and the Regions, technical advice, assessments and guidance on reports, guidelines, procedures and research proposals related to ground-water contamination and protection in Ontario.
 - . Provide committee memberships on five established committees relating to waste disposal and ground-water protection.

- 3.2 Ground-Water Supply . Carry out surveys and projects involved in developing ground-water supplies for municipalities.
 - . Carry out investigations in PSF projects.
 - . Re-establish MOE-municipal well performance inspection program.
 - . Initiate aquifer performance program for assessing the availability of ground water from large aquifers.

- 3.3 Water Well Management . License contractors, provide advice to consumers on water wells, and enforce relevant legislation related to standards of water well drilling; process water-well records and provide guidance and advice to the Regions, and represent the Ministry in liaison with the Ontario Water Well Association (OWAA) and several community colleges offering water-well drilling and pump installation courses.

- 3.4 Ground-Water Mapping . Publish 1 ground-water probability map and complete data assessment and/or cartography on 3 maps.
 - . Publish 14 ground-water susceptibility maps; complete work for 9 ground-water susceptibility maps.

1983-84

3.5 Water Quantity

- . Investigate MBR assessment procedures for surface and ground-water quantity management in Ontario.
- . Complete the update of the Permit To Take Water Policy Manual.
- . Publish "Water Resources of the Upper Portions of the Etobicoke Creek, Mimico Creek, Humber River and Don River Basins" Report; complete data analyses and interpretations for "Water Resources of the Credit River Basin" report; initiate planning and field work for "Water Resources of the Saugeen River Basin" report.

3.6 Networks

- . Calculate and provide total phosphorus loading estimates (1982/83) for IJC Water Quality Board, and analyse 1982 Enhanced Tributary Monitoring Program data.
- . Publish: "A General Classification of Streamflows in Southern Ontario".
- . Publish: "Enhanced Great Lakes Tributary Monitoring in Ontario 1981, Water Quality Status Report".
- . Carry out annual network review and planning to improve efficiency of the surface and ground-water quantity and quality networks.
- . Conduct biological and enhanced tributary monitoring for toxic contaminants; conduct benthic sediment survey for a variety of trace inorganic and organic compounds not on the regular parameter list.
- . Initiate an assessment of methods for determining annual water quality trends at selected stations. The results will be used for network planning and the water quality MBR.
- . Develop strategy for a ground-water hazardous contaminants network; conduct intensive water-quality sampling and inorganic chemical data analysis at 26 existing well sites.

1983-84

- 3.7 Geotechnical Services . Develop and apply geophysics techniques to ground-water contamination problems and the siting of small landfill sites.

- 3.8 APIOS . Complete the inventory of acidic lake waters used by private, domestic consumers in the Sudbury area; extend the regular ground-water inventory west of Sudbury.

 . Continue ground-water studies in the calibrated watersheds, in accordance with the long-range APIOS plans.

- 3.9 Miscellaneous . A ground-water course for Environmental Officers will be given in one Regional office.

4.0 Limnology Section

- 4.1 APIOS . Continuation of studies on effects of pH and Al on lake and stream biota.

 . An examination of the roles of the different acids (HNO₃ vs. H₂SO₄ vs. organic acids) during spring runoff.

 . Continue investigation of odour production by certain algal and mass development of shoreline filamentous forms in low pH lakes.

 . Final report on Lakeshore Capacity Study

- 4.2 Marshlands . A summary of the experimental design and the effectiveness of the Listowel wetland plots for sewage treatment will be prepared. Expansion of the project to include some industrial effluents at Port Perry may take place.

1983-84

4.3 Great Lakes

- . Final reports on Project Quinte (16 papers for special issue of Can. J. Fish. Aquatic Sciences). Reports on trend analyses for Georgian Bay (1973 - 82) Lake Huron (76 - 82) and Lake Erie (76 - 82) for Water Quality Board, IJC.

4.4 Regular

- . Continue laboratory analyses of samples for microscopic identification (Regional support).
- . Report on the Holland River water quality prior to diversion of Newmarket and Aurora to York-Durham sewage treatment system.
- . Continue involvement in external seminars, workshops, etc. for public information and data information exchange.

5.0 Great Lakes Section

5.1 Investigation and
Assessment Unit

St. Marys River

- . River flows along the Canadian shore will be increased when Great Lakes Power is fully operational in 1983. Assessments of this flow increase on the dispersion of industrial discharges and redistribution of sediment contaminants will be carried out.
- . Assessment of new diffuser outfall for the Sault Ste. Marie westerly sewage treatment plant.
- . A report on the findings of 1980 intensive studies to be completed.

1983-84

5.2 Surveillance Unit

- a. Lake Superior
 - . Intensive investigations in four areas of concern and five embayments to identify levels of contamination in water, sediment and benthos.
- b. Lake Erie
 - . Continue to assess effectiveness of phosphorus removal programs and the possibility of meeting target loading stated by the IJC.
 - . Final report on the intensive studies of Lake Erie water quality and recommendations for further control programs.
 - . Publication of integrated report on Nanticoke - effects of industrial development.
- c. Lake Ontario
 - . Conduct extensive statistical analysis of data collected up to 82/83 to determine trends in phosphorus concentration and to optimize sampling strategies for future nearshore water quality sampling.
- d. Hamilton Harbour
 - . Integrated management report summarizing the studies on Hamilton Harbour and proposed remedial programs will be published in co-operation with the West-Central Region.
 - . Identify effects of the Harbour on water intakes and the nearshore region.
- e. Bay of Quinte
 - . Identify levels of sediment contamination and recommendations for remedial actions.

5.3 Environmental Impact Assessment Unit

- a. Hydro Assessments
 - . Evaluate data and prepare conditions for 5-year tempering exemption for Nanticoke G.S.

a. Hydro Assessment (cont'd)

1983-84

- . Evaluate with MNR the necessity of retrofitting fish diversion devices at existing generating stations.
 - . Evaluate radioactivity monitoring data for IJC water quality report.
- b. Marine Construction
- . Continue to participate on IJC dredging subcommittee to establish international guidelines.
 - . Continue to review major construction projects impacting on Great Lakes water quality.
 - . Continue to update 1976 construction handbook of water resources protection guidelines.
 - . Update provincial dredging guidelines.
- c. Environmental Assessments
- . Continue to co-ordinate Branch reviews and provide technical comments on EA's relevant to Great Lakes projects, projects with international implications and those where Water Resources Branch involvement is considered the essential part of the review.
- d. Inplace Pollutants
- . Additional studies on selected areas of concern on the Great Lakes to determine the effects of contaminants and sediments on benthos and water quality.
 - . Development of sediment quality guidelines for inplace pollutants will be initiated.

5.4 Marine Operations

<u>Program</u>	1983-84 (No. of vessel survey days)
Lake Superior	90
Lake Huron	10
Lake Erie	-
Lake Ontario	88
St. Marys River	26
St. Clair River	32
Detroit River	-
Niagara River	32
St. Lawrence River	-
Total	278

6.0 Cartography & Drafting Section

<u>Category</u>	<u>Cartography</u>	<u>Drafting & Graphics</u>	<u>Total</u>
Maps, Plans	140	175	315
Figs., Artwork	150	1,000	1,150
Internal Repro.	4,000	16,000	20,000
Contract Repro.	900	2,100	3,000
Maps Printed	20,000	-	20,000
Bases Requested	200	200	400

1983-84

7.0 Quality Protection Section

- 7.1 Hazardous Contaminants
- . Publish the 1983 edition of Guide to Eating Ontario Sport Fish with information on 1185 locations.
 - . Publish 4-6 Environmental Health Bulletin for 120-150 locations.
 - . Continue to publish Fact Sheets for Contaminants Handbook and participate on a Ministry-wide Handbook Committee.
 - . Review information on chronic (Genotoxic) impacts of contaminants on fish.
- 7.2 Industrial Organic Unit
- . Complete development of four position papers on industrial trace contaminants, secondary treatment, rationale for toxicity and bacterial levels using Pulp and Paper Industry specifics - initiate Fact Find Investigations on these issues.
 - . Represent Ontario on Federal Technical Advisory Group on Pulp and Paper Regulations and Guidelines.
- 7.3 Industrial Inorganic Unit
- . Main activity will centre around an investigation of the best control methods for trace contaminants from industrial sources from throughout the Province.
- 7.4 River Systems Unit
- . Co-ordinate and manage Toronto area and Lake Simcoe studies.
 - . Participate on committees to finalize Rideau River and Stratford-Avon studies.
 - . Assist regions, as requested, in modelling related to assimilation studies.
 - . Develop nuclear and hazardous contaminant spill contingency models.

7.4 River Systems Unit (cont'd)

1983-84

- . Acquire and install HSPF (a state-of-the-art watershed and contaminant transport model).
- . Develop operating model for Spanish River Reservoirs and apply chain-of-lakes model for toxic materials transport.
- . Aid in implementation of Urban Drainage Policies.,
- . Prepare runoff predictions - integrate chain-of-lakes model with toxic contaminant model.

APIOS

7.5 Lake Simcoe
Environmental
Management Study

- . A management plan will be developed which presents agricultural and urban runoff control options for phosphorus loadings to Lake Simcoe to meet CCRD directives.

7.6 Stratford - Avon
River Environmental
Management Study

- . Upon completion of project assist in management plan implementation and review.

7.7 Toronto Area
Watershed Management
Study

- . Main report to be prepared with management plan for Humber River. Detailed plan of action for study of Don River to be tabled.
- . Report on Inventory and Control of Water Quality Contamination in Humber River.
- . Prepare report on Inventory of point and non-point sources of pollution in the Humber River.

7.8 Policy Planning &
Development

- . Blue Book - help revise 10 PWQO; develop industrial effluent strategy, interpret existing policies. Agency Liaison Help: develop interministerial rural drainage accord; contribute to MOE's activities for CORTS and SPOF implementation. Policy Manual - Process 10 new or existing policies.

1983-84

7.9 Aquatic Toxicology
Unit

- . Special toxicity assessments of priority concerns of the Ministry - routine testing will be limited to spot samples with industry.
- . Complete intensive in-situ evaluation of pulp mill effluent on receiving water. Develop biomonitoring protocol for in-situ identification of organic contaminants in receiving water.
- . Toxicity monitoring program of pulp and paper and mining industry in Northwestern Region will continue (EPS contract). Receiving water quality effects on effluents to be characterized -duplicate all tests with hard or soft water.
- . Initiate drinking water biomonitoring program for selected sites.

Great Lakes
Contaminants

- . Continue spottail collections at established sites - emphasis on Niagara, Detroit, Superior. Incorporate fish health effect indicators in high contaminant collection areas.

Acid Precipitation
Toxicity &
Contaminants

- . Continue fish toxicity threshold evaluations with early life stages of other fish species.
- . Continue characterization of episodic toxicity to various species during runoff and determine sublethal effects.
- . Determine effects of acidification to fish energetics.
- . Relate fish health indicators to contaminant levels in yearling perch.

8.0 Water Supply & Pollution Control Section

8.1 Municipal Water Unit

- . Coordinate implementation of the Strategic Plan for the control of hazardous contaminants in drinking water.

8.1 Municipal Water Unit (cont'd)

1983-84

- . Finalize the 9 policy/guidelines packages previously drafted.
- . Coordinate implementation of the Ontario Drinking Water Objectives. TUMMIS computer system will be utilized for data storage and management.
- . Continue appraisal of trihalomethane monitoring and the fluoridation monitoring programs.
- . Continue research coordination activities, to expedite projects aimed at optimizing the existing water treatment processes and operations for removal of toxics.

8.2 Private Water

- . Cataloguing of private communal water systems and individual water supplies and identification of problems particularly hazardous contaminants, microbiological and viral problems.
- . Review and identification of the regulatory needs in Private Water supplies, home water treatment devices, and bottled water.
- . Development of criteria for monitoring, compliance where required, and action when there is a health risk, for private water supplies.
- . Development of response procedures to follow when drinking water quality objectives in private supplies are exceeded.

8.3 Municipal Sewage Unit

- . Complete the Strategic Planning and the associated task reports in the management of hazardous contaminants from municipal sources (this includes items such as sewer-use controls, toxics removal efficiencies by STPs, sampling and monitoring, analytical techniques development, response procedure to deal with toxics discharging to municipal STPs.).
- . Coordinate implementation of Urban Drainage Policy, MOE Policy 08-01, province-wide sampling and analysis of STPs (Policy 08-06), Pollution Control Strategy Formulation Policy (optimal solutions to control multiple

8.3 Municipal Sewage Unit (cont'd)

1983-84

- sources to meet multiple objectives) and several other municipal sewage policies. Continue to document and/or develop 7 more policy/guidelines packages.
- . Continue to assess effectiveness of municipal STP operations by TUMMIS computer system. Plant compliance and remedial action progress reports will be produced monthly. MBR reports will be produced as requested. Annual operating summary of MOE STPs (1982) will also be produced.
 - . Continue to support COA and IJC work, e.g.:
 - a) Provide 1982 annual status report on pollution abatement efforts of Great Lakes municipalities.
 - b) Complete IJC Point Sources and Non-Point Sources Task Forces reports.
 - . Expansion of TUMMIS to cover the assessment of municipal water treatment plants' compliance with specific performance criteria, and to produce MBR reports on water works for submission to Management Board.
 - . Continue new program implementation and research coordination activities, e.g.:
 - a) preliminary preparation of Lake Ontario and Lake Erie Phosphorus Management Plans to meet Canada-U.S. Agreement.
 - b) Investigations of toxics in urban runoffs.
 - . Continue inter-agency committee and liaison activities.

VOTE 2102

Item 04:

WASTE MANAGEMENT ACTIVITY

A. ACTIVITY ROLE AND OBJECTIVES:

ROLE:

To develop plans and programs to manage the generation, reuse, collection, transportation, treatment and disposal of domestic commercial, and industrial wastes and to monitor their results.

OBJECTIVES:

1. To develop regulatory mechanisms for the control of treatment and disposal systems for hazardous, hauled liquid industrial wastes and other wastes requiring special treatment in order to protect public health and the environment.
2. To develop regulatory mechanisms for the control of waste management sites in order to confine or reduce their detrimental effects.
3. To promote the recovery and utilization of material and energy resources from waste through the provision of market information and the development of technology.

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

WASTE MANAGEMENT BRANCH

<u>SECTIONS</u>	<u>BUDGETS (\$000's)</u>			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
1.0 Office of the Director	331.0	368.0	558.0	15	15	15
2.0 Municipal Waste Section	4,804.0	992.5	6,397.5	13	13	13
3.0 Industrial Waste Section	<u>1,573.2</u>	<u>2,351.0</u>	<u>1,482.0</u>	<u>7</u>	<u>7</u>	<u>7</u>
TOTALS	<u>6,708.2</u>	<u>9,711.5</u>	<u>8,437.5</u>	<u>35</u>	<u>34</u>	<u>34</u>

C. MAJOR ACCOMPLISHMENTS:

1981-82

1982-83

1.0 Director's Office

- Centralizing of clerical and office support services, including waybill information processing

- Developed options for Branch restructuring recognizing current and future program and information needs in waste management.
- Oversee development of "Blueprint for Waste Management" in conjunction with assigned co-ordinator.

2.0 Administration

- Provision support services including clerical, office services, waybill data processing

- Provision of 1981-82 support services including waybill follow-up program

1981-82

1982-83

3.0 Municipal Waste Section -

3.1 Waste Systems Unit

Activities

a. Beverage Container

- Interministerial Committee set up

- Beverage Container discussion paper sent to all interested parties

- Analysis of options

b. Pathological Waste

- Completed Pathological Waste Guidelines - sent out to all concerned (Health Units, MOH, etc.)

- Guidelines sent to Regions, compatible with hospital In House Waste Handling Guidelines

c. Gas Migration Study

To determine pattern of migration gas from CH₄ gas from landfills

- Interim Guidelines for the use of land on or near closed landfill area

- Study completed by October 1982

	<u>1981-82</u>	<u>1982-83</u>
d. St. Thomas Green House Study Gas Utilization to heat Greenhouse	. Completed study successfully	. None
e. Best Pipe Project Using CH ₄ to heat boilers at Best Pipe, Kitchener LFS, Ministry of Energy, MOE, Regional Municipality of Waterloo, Best Pipe		. First phase completed report due study using extraction system for control purposes
f. Site Co-ordination Study sites in province Study of all closed sites in province, four phases: 1. Inventory 2. Investigation and verification 3. Remedial measures 4. Long term monitoring	. Completed inventory of sites in province . Completed study of 197 sites	. Completed verification studies of four regions
g. Research to co-disposal requirements		. Completed study (Golder Associates)
h. Milk Containers	. Task force on milk packaging	. Task force on milk packaging

	<u>1981-82</u>	<u>1982-83</u>
i. Remote Sensing Implementation Committee	<ul style="list-style-type: none">• Appointing the Committee	<ul style="list-style-type: none">• Development of Terms of Reference• Developing "Working Groups" to carry out specific tasks assigned by the Committee• Training requirements
j. Water Quality Management Steering Committee Working Group III Effluent requirements Working Group V Ground Water Quality Management	<ul style="list-style-type: none">• Branch input for the development of guidelines and directives "Reasonable Use Guidelines"	<ul style="list-style-type: none">• Branch input for the development of guidelines and "Water Quality Interference Directive" to consultants
k. MOE Waste Disposal Site Inventory of Active Waste Disposal Sites Inventory of Approval Sites (File search - Approvals Branch)	<ul style="list-style-type: none">• Development of the Information System• Development of quantities• Field investigations	<ul style="list-style-type: none">• Data entry to master files• Generation of reports
l. Transfer Station Guidelines	<ul style="list-style-type: none">• Preliminary work first working draft	<ul style="list-style-type: none">• Input for changes to standards to O.R. 309
m. Upper Ottawa Street (Hamilton) Landfill Site Study Committee of the Ministry of Health	<ul style="list-style-type: none">• Periodic review of study	

	<u>1981-82</u>	<u>1982-83</u>
n. Guideline for Sludge Disposal into Sanitary Landfilling Sites	<ul style="list-style-type: none"> • Determining requirements • Working draft 	<ul style="list-style-type: none"> • Review of working draft by unit
o. Remote Sensing Technique and Waste Management Assessment Study (feasibility study - input for implementation committee)	<ul style="list-style-type: none"> • Developing study plan • Developing "Terms of Reference" 	<ul style="list-style-type: none"> • Final report produced by M.M. Dillon Limited October 1982
p. Sewage Sludge Guidelines For sewage sludge utilization on agricultural lands	<ul style="list-style-type: none"> • Sludge guideline implementation committee established (SGIC) 	<ul style="list-style-type: none"> • Program Implementation 90% completed
q. Composting Guidelines Guidelines for compost production quality and end use	<ul style="list-style-type: none"> • Committee formed • Draft interim guidelines developed 	<ul style="list-style-type: none"> • No activity
r. Environmental Assessment Review Review of class and specific EA's as needed		<ul style="list-style-type: none"> • Branch representative designated • Input as required
s. Perpetual Care Program for Waste Disposal Sites To ensure that financial means are available to remedy waste disposal site problems whenever they occur	<ul style="list-style-type: none"> • Perpetual Care Task Force of 1978 identified: <ol style="list-style-type: none"> 1. Financial guarantees 2. Perpetual Care Fund 3. Operators environmental liability insurance 	<ul style="list-style-type: none"> • Development of perpetual care package

1981-82

1982-83

t. Waste Management Improvement Program

Province provides financial assistance to municipalities for: (\$500,000):

- site closure
- site upgrade
- debris clean-up
- special studies, etc.

- 1981/82 Program satisfactorily completed

of sites upgraded - 63
of sites studies - 16
of others - 2
of municipalities involved - 101
Amount spent on grants - \$496,000

Allocation of \$500,000 in grants to municipalities in addition \$200,000 has been granted for labour intensive work.

- PROJECTED RESULTS
 - # of sites closed - 22
 - # of sites upgraded - 81
 - # of sites studies - 26
 - Other - 1
- Grant increase - \$200,000 Labour Intensive
 - # of contract extensions - 46
 - # of new contracts - 29
 - # of municipalities involved - 153
 - Amount to be spent - \$700,000

u. Quarterly Report

The report documents all studies and projects being done by the Municipal Section, Waste Management Branch

- Quarterly report initiated in 1982. First report was presented December 1982.

- Will be updated every quarter - new projects incorporated.

1981-82

1982-83

Results of studies should provide material to formulate guidelines, standards and regulations or initiate other studies

3.2 Resource Recovery Unit

Activities

a. Experimental Plant for Resource Recovery (ERRP)

Results:

Waste Receipts

	<u>1981-82</u>	<u>1982-83</u>
	<u>Thousands of Metric Tonnes</u>	<u>Thousands of Metric Tonnes</u>
Waste Receipts	87.9	150.0
Recovered Products:		
Refuse Derived Fuel	0.047	0.037
Ferrous	1.580	1.700
Corrugated	1.687	1.450
Compost	0.639	1.900
% of Continuously attainable ERRP Process Availability Achieved	58%	73%

b. Market Development Canada Cement Study

- Field testing at Woodstock

- Simulation of the use of supplementary fuels in a Rotary Kiln
- Assessment of various waste fuels (rubber tires, refuse derived fuel, pyrolysis gas) and ranking of potential for cement industry
- Simulation data completed

- | | <u>1981-82</u> | <u>1982-83</u> |
|---|--|---|
| <p>c. Compost utilization study at Ridgetown College of Agricultural Technology</p> | <ul style="list-style-type: none"> • Growth problems encountered the first year | <ul style="list-style-type: none"> • Second year study completed • Results indicate improperly cured compost can adversely affect crop growth • Growth problems encountered during the first year did not recur • Compost has shown benefits in terms of crop maturity and soil pH, although crop yield was not significantly (statistically) different |
| <p>d. Compost Study
University of Guelph</p> | <ul style="list-style-type: none"> • Evaluate use of compost in container growing and field production for landscape trees and shrubs | |
| <p>e. Recyclability of non-repulpable waste papers (coated papers such as wall paper)</p> <p>Study by Ontario Research Foundation</p> | <ul style="list-style-type: none"> • Investigate the recyclability of non-repulpable waste papers • Results indicate the potential for recovery • Defiberizing process developed at ORF | |

1981-82

1982-83

f. Project Paper Recycle (Office Paper Recovery)

- Recovery system expanded to 48 government occupied buildings
- Revenue approximately \$25,000/year
- Recovered tonnage increased from 215 to 226 tonnes/year
- Ongoing program

g. ERRP Product Sales

- New customer for ferrous material
- Large sales of compost to Regional Municipality of Peel and Metropolitan Toronto Parks

h. Study on the use of RDF as burnout fuel in clay brick manufacture

i. Source Separation Program (Program announced Aug. 1981)

Projects Funded: 3

8

Tonnage Recovered: 1,850 tonnes

6,270 tonnes

Population Served: 147,000

647,000

1981-82

1982-83

- Municipalities now involved:

Halton Region
Niagara Region
Oshawa
Richmond Hill
East York
Stratford

j. Waste Management Planning

Waste Management Studies:

9

10

Initiated (included in above):

5

2

Studies in Progress:

- Essex County
- Regional Municipality of Niagara
- North Simcoe County

Studies Completed:

- Bruce County
- Township of Clarence and Town of Rockland
- Region of Haldimand-Norfolk
- Haliburton County
- North Shore Township
- Simcoe County
- Thunder Bay

	<u>1981-82</u>	<u>1982-83</u>
k. Participation with Ministry of Energy on Energy from Waste Studies through representation on Steering Committee		
Number of studies:	6	3

1981-82

1982-83

4.0 Industrial Waste Section

4.1 Audit & Codes of Practice Unit

Activities

a. Liquid Industrial and Hazardous
Waste Management

- | | |
|---|---|
| <ul style="list-style-type: none">• Developed draft of generator registration regulation• Prepared draft revisions to Regulation 313 "Transfer of Liquid Industrial Waste"• Completed procedures document for assessment and monitoring of transfer stations and recycling operations• Completed liaison arrangement for monitoring transboundary waste movements at border crossings• Initiated Quality Review Board for establishment of new Waybill data processing system• Develop manual follow-up program for waybill system | <ul style="list-style-type: none">• Developed Interim Guideline "Interpretation of the Hazardous Waste Definition"• Final industrial waste management documents prepared for inclusion in "Blueprint for Waste Management" including:<ul style="list-style-type: none">- Generator Registration Regulation- Hazardous Waste Interpretation- Revision to Waybill Regulation- Carrier Requirements and Standards• Completed feasibility study for new waybill data processing system |
|---|---|

1981-82

1982-83

- Full implementation of waybill follow-up program with missing or delinquent waybills down to less than 1% of transactions

1981-82

1982-83

4.2 Special Projects Unit

Activities

a. Other Industrial Waste Management

- Completed studies involving the use of a plasma arc and plasma torch for the destruction of PCBs
- Participation in the Interagency Review Committee On The Hardrock Disposal of Spent Nuclear Fuel
- Prepared draft guidelines on airborne radionuclides for Elliot Lake Provincial Co-ordinating Committee
- Provided technical advice to provincial ministries on proposed Malvern Bill
- Completed amendment to Regulation 309 for the transportation and disposal of asbestos waste
- Completion of guidelines for management of PCB wastes
- Prepared discussion paper on interim guidelines for mobile destruction of PCB wastes
- Co-ordinated technical review of OWMC's "Waste Quantities Study"

D. EXPECTED ACHIEVEMENTS:

1983-84

1.0 Director's Office

- Ensure completion of detailed reports, appendices, etc. required for "Blueprint for Waste Management"
- Oversee management of public response and implementation of "Blueprint" programs, etc., in conjunction with Blueprint co-ordinator

2.0 Administration

- Implementation of centralized AES word processing system
- Continued delivery of waybill data processing and follow-up system; preparation for data processing associated with proposed generator registration regulation

1983-84

3.0 Municipal Waste Section -

3.1 Waste Systems Unit

Activities

a. Beverage Container Issue

- Beverage container legislation
- Establishment of recycling program with industry
- Option paper-discussion of Ministry direction on this issue
- Implementation of new regulations (audit, etc.)

b. Pathological Waste Issue

- Policy and guidelines already developed

1983-84

c. Gas Migration Study

To determine pattern of migration gas from CH₄ gas from landfills

- Finalizing of Landfill Use Guidelines
- Providing seminar to regions

d. St. Thomas Green House Study

Gas Utilization to heat Greenhouse

- Study completed

e. Best Pipe Project

Using CH₄ to heat boilers at Best Pipe, Kitchener LFS, Ministry of Energy, MOE, Regional Municipality of Waterloo, Best Pipe

- If funds available would like to continue study for FY 83/84 .

f. Site Co-ordination Study sites in province

Study of all closed sites in province, four phases:

1. Inventory
2. Investigation and verification
3. Remedial measures
4. Long term monitoring

- Computer inventory

1983-84

- g. Research to co-disposal requirements
 - Developing guidelines for controlled waste sites

- h. Milk Containers
 - Obtaining Task Force position
 - Development of Ministry policy on milk containers

- i. Remote Sensing Implementation Committee
 - Report will be completed and submitted to ADM

- j. Water Quality Management Steering Committee
 - On going

Working Group III Effluent requirements

Working Group V Ground Water Quality Management

- k. MOE Waste Disposal Site Inventory of Active Waste Disposal Sites
 - On going

Inventory of Approval Sites (File search - Approvals Branch)

1983-84

- l. Transfer Station Guidelines
 - Guidelines rewritten per new reg O.R.309, to be finalized

- m. Upper Ottawa Street (Hamilton) Landfill Site Study Committee of the Ministry of Health

- n. Guideline for Sludge Disposal into Sanitary Landfilling Sites
 - Draft of review by regions

- o. Remote Sensing Technique and Waste Management Assessment Study (feasibility study - input for implementation committee)
 - N/A

- p. Sewage Sludge Guidelines
For sewage sludge utilization on agricultural lands
 - Draft guidelines out for coordination. Final guidelines available fall '83

- q. Composting Guidelines
Guidelines for compost production quality and end use
 - Coordination of document with interested parties

- r. Environmental Assessment Review
Review of class and specific EA as needed
 - Branch coordinator input as required

1983-84

s. Perpetual Care Program for Waste Disposal Sites

To ensure that financial means are available to remedy waste disposal site problems whenever they occur

- Coordination of document - internal and external

t. Waste Management Improvement Program

Province provides financial assistance to municipalities for: (\$500,000):

- site closure
- site upgrade
- debris clean-up
- special studies, etc.

- Budget 500,000 - for program continuation

u. Quarterly Report

The report documents all studies and projects being done by the Municipal Section, Waste Management Branch

Results of studies should provide material to formulate guidelines, standards and regulations or initiate other studies

- Updated every quarter

1983-84

3.2 Resource Recovery Unit

Activities

- a. Experimental Plant for Resource Recovery (ERRP)

Results:

Thousands of Metric Tonnes

Waste Receipts

160.0

Recovered Products:

- Refuse Derived Fuel
- Ferrous
- Corrugated
- Compost

0.10
2.20
2.00
3.00

% of Continuously attainable ERRP Process Availability Achieved

75%

- b. Market Development Canada Cement Study

• Economic evaluation

- c. Compost utilization study at Ridgetown College of Agricultural Technology

- d. Compost Study University of Guelph

1983-84

Kitchener
Ottawa
Oakville
Metropolitan Toronto

j. Waste Management Planning

Waste Management Studies:

7

Initiated (included in above):

4.

Studies in Progress:

- Completion of Studies
- Essex County
- Regional Municipality of
Niagara
- North Simcoe area

Studies Completed:

- New Studies Expected
- Eastern Prescott, Russell
County
- Hearst-Kapaskasing-Cochrane
Area
- Leeds-Grenville County
- Wellington County

1983-84

4.0 Industrial Waste Section

4.1 Audit & Codes of Practice Unit

Activities

a. Liquid Industrial and Hazardous
Waste Management

- Complete extensive public consultation process on hazardous and liquid industrial waste programs and legislation in accordance with "Blueprint for Waste Management"
- Prepare Generator Registration management program and finalize required data processing system as per QRB recommendations for promulgation in early '84 and establish Hazardous Waste Listing Committee
- Liaise with Environment Canada to ensure compatibility between MOE industrial waste management systems and those being proposed by EPS
- Prepare guidelines or background document in support of regulatory mechanisms developed

1983-84

4.2 Special Projects Unit

Activities

a. Other Industrial Waste Management

- Develop, in conjunction with Federal agencies, technical guidelines for the management and disposal of LLRW
- Assist in the training of Regional staff in the response to transportation accidents involving radioactive sources
- Develop and implement a regulation for the approval and operation of a mobile PCB destruction system
- Prepare a guideline for the management of small quantities of hazardous waste

VOTE 2102

Item 05:

HAZARDOUS CONTAMINANTS AND STANDARDS ACTIVITY

A. ACTIVITY ROLE AND OBJECTIVES:

ROLE:

- (a) To assess the significance of hazardous contaminants and coordinate Ministry activities for their control.
- (b) To establish standards for the protection of public health and the environment.

OBJECTIVES:

1. To identify hazardous contaminants and their potential effects on the environment.
2. To prioritize hazardous contaminants requiring control strategies.
3. To coordinate the development of plans and programs for the control of hazardous contaminants and pesticides.
4. To identify and prioritize the Ministry's needs for establishing environmental standards.
5. To coordinate the development of environmental standards.

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

HAZARDOUS CONTAMINANTS AND
STANDARDS BRANCH

<u>SECTIONS</u>	<u>BUDGETS (\$000's)</u>			<u>STAFF*</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
1.0 Director's Office and Administration	108.7	352.7	655.0	3	3	17
2.0 Commercial & Agricultural Chemicals Section	682.0	1,472.1	348.5	22	22	7
3.0 Termite Transfer Payments	370.0	300.0	500.0	-	-	-
4.0 Industrial Chemicals Section	-	631.8	1,134.7	-	-	-
5.0 Pesticides Advisory Committee	435.0	488.1	490.8	3	3	3
6.0 Advisory Committee	250.0	250.0	247.5	4	4	4
TOTALS	<u>1,845.7</u>	<u>3,494.7</u>	<u>3,376.5</u>	<u>32</u>	<u>35</u>	<u>35</u>

C. MAJOR ACCOMPLISHMENTS

	<u>1981-82</u>	<u>1982-83</u>
1.0 <u>Director's Office and Administration</u>	<ul style="list-style-type: none">. Branch established in August 1982	<ul style="list-style-type: none">. Organization, staffing and management of new Branch. Advice to senior management on hazardous contaminants and standards issues
2.0 <u>Commercial and Agricultural Chemicals Section</u>	<ul style="list-style-type: none">. Not applicable.	<ul style="list-style-type: none">. Classification of 4000 pesticides. Training, education and examination of applicants prior to the issuance of licences (2,100 exams). Assessment of applications for permission to use restricted pesticides (13,200 licences, 2,000 permits). Technical consultation and educational service. Policies and regulations for the management of pesticides. Termite control program (technical and financial components)

	<u>1981-82</u>	<u>1982-83</u>
3.0 <u>Termite Transfer Payments</u>	\$370.0	\$500.0
4.0 <u>Industrial Chemicals Section</u>	. Not applicable.	<ul style="list-style-type: none">• Establishment of a mechanism for the prioritization of hazardous contaminant substances• Public release of the Ministry's priority chemicals list• Establishment and maintenance of scientific data base• Initiation of process of collecting data on the occurrence in the public environment of the chemicals on the Ministry's priority chemicals list
5.0 <u>Pesticides Advisory Committee</u>	. Not applicable.	<ul style="list-style-type: none">• Review of Pesticides Act and Regulations.• Overview, assessments and detailed reports on pesticides such as Captan, Tordon, Paraquat, Carbaryl• Recommendations of pesticide product classifications.• Funding of \$300,000 in Ministry research

D. EXPECTED ACHIEVEMENTS

1983-84

1.0 Director's Office and Administration

- the leadership, management and administrative support to the activities outlined above.

2.0 Commercial and Agricultural Chemicals Section

- maintain and update pesticide products (4000) classification system
- train, educate and examine applicants prior to the issuance of licences (Exams 2400: Licences 13,500)
- assess applications for permission to use restricted pesticides (2500)
- provide technical consultation and educational service
- develop policies and regulations for the management of pesticides
- administer the termite control program (technical and financial components)

3.0 Termite Transfer Payments

- \$500.0 transferred to municipalities

4.0 Industrial Chemicals Section

- continue prioritization of hazardous contaminant substances
- establish and maintain scientific data base
- identify and assess significance of hazardous contaminant substances
- develop and recommend standards for hazardous contaminant substances (three standards in 1983-84)
- provide technical consultation and information service
- establish policies, guidelines and codes of good practice for the management of hazardous contaminant substances

1983-84

5.0 Pesticides Advisory Committee

- . review of the Pesticides Act and Regulations
- . enquiry of matters concerning pesticides
- . review of all government publications respecting pesticides
- . recommendations of the classification of pesticide product
- . overseeing the funding of an annual research program
- . reviewing such matters as the Minister requires

VOTE 2102

Item 06:

ENVIRONMENTAL ASSESSMENT ACTIVITY

A. ACTIVITY ROLE AND OBJECTIVES:

ROLE:

To promote the consideration and inclusion of environmental, social and economic alternatives in the planning and development of undertakings.

OBJECTIVES:

To coordinate the review and evaluation of environmental assessments of proposed undertakings.

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

ENVIRONMENTAL ASSESSMENT BRANCH

<u>SECTIONS</u>	<u>BUDGETS (\$000's)</u>			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
1.0 Director's Office including Administrative Unit	294.2	775.0	478.0	10	10	9
2.0 Professional Staff	<u>655.0</u>	<u>757.0</u>	<u>845.0</u>	<u>18</u>	<u>18</u>	<u>18</u>
TOTALS	<u>949.2</u>	<u>1,532.0</u>	<u>1,323.0</u>	<u>28</u>	<u>28</u>	<u>27</u>

C. MAJOR ACCOMPLISHMENTS

1981 - 1982

1982 - 1983

1.0 Director's Office and
Administrative Unit

- . Branch part of
Environmental Approvals
Branch

- . Establishment of Branch
structure and processes
- . Supervision of the
Branch
- . Assist in conducting
program review

a) New Files Opened

1. Individual EAs	19	38
2. Class EAs + ESRs	24	62
3. Other projects	5	3
4. Exemption Requests	27	119
5. Guidelines/Administrative	115	12
6. Status opinions	81	212

b) Word Processing

% of Assignments Completed on Schedule	94
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2.0 PROFESSIONAL UNIT

	<u>1981-82</u>	<u>1982-83</u>
a) Scope environmental assessments and facilitate problem resolution prior to formal submission of environmental assessments through pre-submission consultation.	29	56
b) Projects in pre-submission consultation		
c) Prepare reviews required by the Act		Provide information and advice to decision makers, proponents and the public on the adequacy of the environmental assessment as a basis for the Minister/Board to make a decision and to identify improvements which could be made to the environmental assessment.
d) Formal environmental assessment submissions		
Provincial	11	7
Municipal	4	5
Private Sector	0	1
TOTAL	15	13

e)	Approvals Granted	<u>1981-82</u>	<u>1982-83</u>
	TOTAL	9	19
	Projects Not Approved	0	0
	EAs submitted and withdrawn or exempted	2	6
f)	Participation in Hearings		
	- to address matters relevant to section 5(3) of the Act and to the environmental assessment review and approval process.		
	- to advise Ministry Counsel.		
	- to process necessary documents related to hearings.		
	Hearings Required	1	4
g)	Advise and process exemption requests		
	- to advise the Minister on the merits of proponent's exemption requests.		
	- to liaise with proponents and review agencies on the content and format of exemptions and conditions required.		
	- prepare the necessary documents to process exemptions and filings pursuant to exemptions.		
	Exemptions Granted	37	22

D. EXPECTED ACHIEVEMENTS

1983 - 1984

1.0 Director's Office and Administrative Unit

a. New Files

- | | |
|------------------------------|-----------|
| 1. Individual EAs | 50 - 60 |
| 2. Class EAs and ESRs | 75 - 100 |
| 3. Other Projects | 5 |
| 4. Exemption Requests | 100 - 150 |
| 5. Guidelines/Administrative | 15 |
| 6. Status Opinions | 200 - 250 |

b. Establish a new microfilm filing system

- improve access to files
- improve file security
- reduce space requirements

c. Word Processing

% of assignments completed on schedule 94

2.0 PROFESSIONAL UNIT

1983 - 1984

a. Projects in pre-submission consultation, including scoping	50-60
b. Prepare reviews required by the Act	32
c. Formal environmental assessment submissions	
Provincial	10
Municipal	10 - 15
Private Sector	4
TOTAL	24 - 29
d. Approvals Granted	18
e. Participation in Hearings	8 - 12
f. Review Class EA ESRs	75 - 100
g. Advise and process exemption requests	20 - 25
h. EA status opinions	150 - 200

3.0 PROFESSIONAL UNIT

1983-84

- i) Establish the Environmental Assessment Advisory Committee
 - advice to Minister prior to decisions on selected exemption requests and designation proposals.
 - reduced public criticism of exemption process.
 - reduced the number of exemption requests.
 - 12 referrals to Committee per year anticipated.

- j) Improve the Quality of Review Ministries' Comments
 - better quality technical advice to decision maker, proponent and public through review process.
 - reduced time required to prepare reviews.

- k) Retrack Class Environmental Assessments
 - ensure that the Act is applied efficiently and effectively to projects which have the potential to significantly affect the environment.
 - screening process to deal with projects which should not be included in current class EAs but for which exemption is not warranted.
 - reduction in the number of projects covered by class EAs.
 - place the onus on proponents to internalize EA Act principles and comprehensive planning procedures without applying the full weight of the Act.

1983-84

- 1) Apply the Act to Private Sector Waste Management Projects
- . implementation of a regulation.
 - . guidelines in concert with MOE technical Branches to help private sector proponents in preparing environmental assessment documents.
 - . fulfillment of previous MOE policy commitments to apply the Act to private waste industry.
 - . comprehensive approvals process where the proponent's and public's rights are well defined.
- m) Review the Role of the Review and the Review Co-ordinator
- . evaluation of suggested improvements to the role of the review.
 - . implementation of improvements where beneficial.
 - . more effective procedures and better advice to decision.
- n) Rescreen Application of Act
- . re-evaluation of scope of application to all proponent's programs.
 - . ensure Act applies to projects/programs which have the potential to significantly affect the environment.
 - . reduction of the number of minor activities currently subject to the Act.

1983-84

o) Expand the Project Status and Information System

- provision of senior management with current information on the status of environmental assessments in a machine retrievable format.
- improved communications with other MOE Branches.
- facilitated problem solving.
- project tracking capability to ensure efficient project management.

p) Improve Review Agencies Comment Turn-around Time

- institution of a procedure whereby review agencies must advise of their intention to make comments within 30 days of receipt of EA and must provide response within 60 days.

VOTE 2102

Item 07:

LABORATORY SERVICES & APPLIED RESEARCH ACTIVITY

A. ACTIVITY ROLE AND OBJECTIVES:

ROLE:

To provide analytical laboratory and applied research services to the Ministry.

OBJECTIVES:

1. To provide sample testing support for Ministry programs.
2. To develop analytical methods for measuring pollutants.
3. To provide expertise in data interpretation and in planning and implementing Ministry programs.
4. To carry out applied research on environmental phenomena in support of Ministry programs.

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

LABORATORY SERVICES AND APPLIED RESEARCH BRANCH

<u>SECTIONS</u>	<u>BUDGETS (\$000's)</u>			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
1.0 Director's Office	724.0	808.0	951.0	3	3	4
2.0 Administration	504.0	536.0	600.0	19	19	19
3.0 Inorganic Trace Contaminants	1,706.0	1,737.3	1,936.2	55	55	55
4.0 Water Quality Section	1,549.0	1,580.4	1,850.1	52	52	52
5.0 Pesticides Section	891.0	894.0	1,056.0	18	18	21
6.0 Organic Trace Contaminants	784.0	808.0	859.0	21	22	21
7.0 Microbiology Section	976.0	1,017.8	948.0	26	26	23
8.0 Applied Sciences Section	292.0	329.0	329.0	10	8	7
9.0 Wastewater Treatment Section	781.0	794.0	876.0	21	21	21
10.0 Water Technology Section	381.0	430.0	475.0	11	4	11
11.0 Regional Laboratories						
Southwestern	515.0	590.0	652.0	16	16	16
Southeastern	228.0	228.0	300.3	8	8	8
Northwestern	<u>432.5</u>	<u>474.0</u>	<u>518.4</u>	<u>13</u>	<u>14</u>	<u>14</u>
TOTALS	<u>9,763.5</u>	<u>10,276.5</u>	<u>11,351.0</u>	<u>273</u>	<u>273</u>	<u>272</u>

C. MAJOR ACCOMPLISHMENTS

1981-82

1982-83

1.0 Director's Office

- . brought on-line priority pollutants unit to provide routine analytical testing system for key parameters
- . Brought on-line new mass spectrometry system which provided added depth to lab diagnostic capability
- . provided additional resources to strenghten lab quality assurance program

- . mounted successful four-day open house for the laboratory and research facilities
- . central lab increased production by 200,000 tests with total production reaching a record high of 1.5 million tests

2.0 Administration

- . automated sample information system brought on line
- . on-site immunization

- . all samples processed by LIS
- . upgrading of chemical storage areas

3.0 Inorganic Trace Contaminants

- . increased capabilities for multi-element analyses
- . expanded capability for data management and utilization

- . developed capability for transferring data from minicomputers and analytical equipment to LIS
- . increased analytical capabilities

4.0 Water Quality Section

1981-82

- . hosted Electron Microscopy Symposium
- . published "Outlines of Analytical Methods"
- . automation of ion chromatography techniques
- . development of flow injection analysis system
- . characterization of mineral fibres by electron microscopy
- . measurement of tritium to access the age of groundwater
- . radioactive sulphur measurements to measure in-lake oxidation and reduction
- . analytical procedure for the analyses of asbestos collected on Delbag filters

1982-83

- . automated calcium and magnesium analysis
- . co-ordinated "Open House" at Laboratory & Research Complex
- . Aquatic Testing Mobile Lab used in support of field studies
- . developed new procedures for low level analysis of acidity and fluorides
- . developed an ion Chromatograph
- . new BOD and COD methods put on-line
- . Methylthymol blue method for sulphate replaced by an ion chromatographic technique
- . development of methods for tritium, radium - 226 and iodine - 131 in drinking water
- . technique for determining sites of heavy metal deposition in vegetation
- . Sediments and groundwater dating by radiological techniques

5.0 Pesticides Section

1981-82

- . developed microcomputer program for storage, retrieval, reduction, collation and reporting of fish data
- . incorporated GLC capillary column technology for routine analysis
- . implemented automated capillary gas chromatography for routine analysis of herbicides and chlorophenols
- . developed an HPLC procedure for analysis of polar herbicides in water
- . developed methods for analysis of TCDD in raw/treated waters and fish
- . acquired a capillary chromatography/mass spectrometry system for confirmation of PCDD/PCDF
- . developed method for analysis of incineration samples for PCDD/PCDF

1982-83

- . expanded sample processing methods for wider range of pollutants
- . established a laboratory for the analysis of organics in ambient air
- . developed a method for the analysis of chlorinated aromatics in ambient air
- . completed joint study to determine PCDD/PCDF levels in three Ontario incineration sources
- . enlarged TCDD data base for groundwaters and raw/treated water
- . installed a second GC/MS system for PCDD/PCDF analysis.

1981-82

1982-83

6.0 Organic Trace Contaminants

- . established a Priority Pollutants Unit

- . established a new lab facility and purchased equipment for high resolution mass spectrography
- . acquired a computerized infra red spectroscopy for substance identification.

7.0 Microbiology Section

- . summarized 6-year study of bacteria isolated and identified from municipal drinking water systems
- . implemented concentration techniques in drinking water for mutagenic compounds

- . acquired new Biohazards laboratory
- . released final report on "Whitchurch-Stouffville Mutagenicity Study"
- . developed method for determining rates of microbial sulphate reduction in water and sediments

1981-82

1982-83

8.0 Applied Sciences Section

- . released reports on:
 - . Phosphorus Retention in Soils
 - . Groundwater Mounding under leaching beds
 - . Ontario Regulation 374/81
 - . MOE Policy on "Allowable Deflection of Buried Plastic Pipe.

- . released publications:
 - . Pit Run material for septic tank-filter Bed System
 - . Design of Flexible Pipe
 - . Large Subsurface Sewage Disposal Systems
 - . Oxygen Transfer in Private Waste Aerobic Sewage Treatment Systems.

9.0 Wastewater Treatment Section

- . provide technical expertise in development of Ministry policies
- . field evaluation of new equipment used for wastewater processing

- . field evaluation of four new aeration devices
- . provided technical expertise in developing eight Ministry policies
- . completed nine research projects

1981-82

10.0 Water Technology Section

- . Ozone as alternative disinfectant for water supplies
- . prepared publication on:
 - . Alternate Disinfectants
 - . Activated Carbon use

1982-83

- . finalized data for major reports:
 - . Chlorinated Organics in Ontario Drinking Water Supplies
 - . Hazardous Contaminants in Drinking Water Treatment Chemicals
 - . Occurrence and treatment of Yersinia enterocolitica in surface water.

11.0 REGIONAL OPERATIONS

1981-82

1982-83

Southwestern Region

- . Performed 176,971 chemical tests and 50,288 microbiological tests.
 - . Provided scientific and special analytical support for the Listowel Marsh Project, the Stratford-Avon River Environmental Management Project and the storage and Renovation of Sewage Effluent by Conversion to Snow Project.
 - . Added Aeromonas hydrophila as a new parameter to the microbiology section.
- . Provided for projected analytical load of 193,000 chemical tests and 55,000 microbiological tests.
 - . Provided scientific and special analytical support for the Listowel Marsh Project, the Tillsonburg Ultraviolet Disinfection study and the Storage and Renovation of Sewage Effluent by Conversion to Snow Project.
 - . Added manganese as a new parameter to the Chemistry Section.
 - . Methodology improvement and automation of the Dissolved Organic Carbon tests.

1981-82

Southeastern Region

- . Performed approximately 100,000 chemical analyses.
- . Performed approximately 60,000 microbiological analyses.
- . Maintained support files for analytical results to provide data for plant performance reports.

1982-83

- . Performed approximately 100,000 chemical analyses.
- . Performed approximately 60,000 microbiological analyses.
- . Maintained support files for analytical results to provide data for plant performance reports.
- . Computer storage and retrieval of microbiological results perfected and implemented.
- . Expert assistance provided to field and operating staff in analytical methods.
- . Several surface water microbiological evaluations carried out with laboratory staff.

Northwestern Region

1981-82

- . Developed a capability for aqueous low level mercury analysis.
- . Developed a capability for molybdenum analysis.
- . Development of an analytical procedure for aqueous, calcium and magnesium analyses.
- . A capability was established for the concentration of E. coli and Klebsiella sp. in pulp and paper effluents and for analyses of Salmonella in surface waters.

1982-83

- . Introduced Standard Plate Count as additional monitoring capability for municipal drinking water supplies.
- . New methodologies were established for enumeration of E. coli and for detection of toxigenic Aeromonas.
- . Analytical methodologies were established for low level aqueous total mercury and aqueous methyl mercury analysis.
- . Introduced an automated absorption analytical procedure for analysis of calcium and magnesium in aqueous samples.
- . Organized and coordinated Open House at Regional Laboratory to commemorate the tenth anniversary of this Ministry.
- . Performed chemical and microbiological analysis in support of Regional monitoring and abatement programs including two intensive surveys for the Wabigoon River study. The overall test loading for the 1982-83 fiscal period increased by approximately seven percent over the level for the previous fiscal year.

D. EXPECTED ACHIEVEMENTS

1983-84

1.0 Director's Office

- . Reorganization of branch to expand and develop additional capabilities to handle hazardous organic contaminants.
- . Bring on-line Phase II (Direct Computer Input) of Laboratory Information System.
- . Bring on-line state-of-the-art electron microscopy equipment and high resolution mass spectrometry to increase productivity, data quality and diagnostic capabilities.
- . Achieve a 5% increase in productivity.
- . Bring on-line a drinking water lab for testing trace organics.
- . Initiate and participate in major projects on (a) marshlands as a wastewater treatment alternative, (b) activated charcoal as a drinking water enhancement tool.

2.0 Administration

- . Develop a word processing system for the branch.
- . Bring on-line an automated inventory control system for central stores.
- . Improve the response time on the Laboratory Information System (LIS) for sample input and data reporting to clients.

3.0 Inorganic Trace Contaminants Section (ITC)

- . Initiate and complete direct computer input (DCI) for the remaining major analytical systems.
- . Minimize sample throughput time on all samples, with emphasis on water and air particulates.

4.0 Water Quality Section

- . Coordinate and publish "Handbook of Analytical Methods for Environmental Samples", "Outlines of Analytical Methods" and "Sampling Guide" for the lab branch.
- . Bring on-line methods for the determination of bromide, acidity component fractionation, true color and lead-210.
- . Implement an automated data acquisition system for the ion chromatograph.
- . Implementation of a flow injection system prototype to increase analytical productivity.
- . Automation of work intensive chlorophyll procedure.
- . Completion of method development for strontium - 90 and cesium - 137 analysis for monitoring drinking waters.

5.0 Pesticides Section

- . Expand current analytical procedures and develop new methodology to include industrial organics and other newly identified environmental pollutants.
- . Extend the use of capillary gas chromatography to the analysis of PCB's and compare historical packed - column data with capillary data to ensure continuity.
- . Fully evaluate the new Florisil/Carbosieve absorption cartridges for the analysis of toxic organic vapours in ambient air.
- . Integrate all procedures for volatile organic analysis into a single system.
- . Investigate automated clean-up data and partitioning procedures for organics in water.
- . Establish a new work facility to provide analytical capability for landfill site monitoring and industrial waste surveys.
- . Develop and implement analytical methods for screening organic contaminants in landfill and waste disposal sites.

1983-84

6.0 Organic Trace Contaminants Section (OTC)

- . Bring on-line high-resolution Mass Spectrometry to establish state-of-the-art diagnostic capability and sensitivity in Dioxin analyses.

7.0 Microbiology Section

- . Evaluate water treatment plants ability to monitor water quality for presence-absence tests.
- . Study levels of sulfur cycle bacteria in Great Lakes.
- . Initiate groundwater and landfill leachate mutagenicity study.
- . Evaluate E. coli and Enterococcus bacterial indicators in recreational areas of Great Lakes.
- . Conduct epidemiology study of virus diseases at selected recreational swimming areas.
- . Develop quantitative methods for recovery of enteric viruses.
- . Evaluate virucidal efficiency of ultraviolet light for sewage disinfection.
- . Continue methods development for isolation of viruses from potable water and environmental samples.

8.0 Applied Sciences Section

- . Determine effect of pipeline insulation on pipe stress and soil temperatures.
- . Determine pipeline loading induced by soil freezing.
- . Evaluate failure mechanism of service connections.
- . Evaluate effect of multiple small private waste disposal units on groundwater.
- . Develop methods for predicting landfill leachate movement/attenuation in groundwater.
- . Determine hazardous contaminant attenuation in in-ground disposal systems.

1983-84

9.0 Wastewater Treatment Section

- . Complete twelve developmental research projects related to wastewater treatment processes.
- . Prepare four draft statements on Policy Development pertaining to wastewater treatment.

10.0 Water Technology Section

- . Address hazardous trace contaminants and their removal through drinking water treatment options.
- . Participate in the preparation of Ministry drinking water guidelines.

11.0 REGIONAL LABORATORIES:

Southwestern Region

1983-84

- . Meeting anticipated analytical load of 195,000 tests in the Chemistry Section and 55,000 tests in the Microbiology Section.
- . Continue to provide scientific and special analytical support for the Listowel Marsh and Storage and Renovation of Sewage Effluent by Conversion to Snow projects.
- . Automate and improve methodology on the COD test.
- . Upgrade laboratory quality control and provide computerized documentation.

Southeastern Region

- . Perform approximately 100,000 chemical analyses.
- . Perform approximately 60,000 microbiological analyses.
- . Maintain support files for analytical results to provide data for plant performance reports.
- . Computer storage and retrieval of microbiological results will be perfected and implemented.
- . Expert assistance will be provided to field and operating staff in analytical methods.
- . Several surface water microbiological evaluations will be carried out with laboratory staff.
- . Reduce the work load in the lab and increase the analytical quality control to allow participation in work programs such as IJC which requires better documentation of analytical methods.

1983-84

Northwestern Region

- . The Regional Laboratory will be implementing semi-automation of both the solids and heavy metals analysis procedures. The modification of these procedures is expected to increase productivity by oberting the need for manual sample manipulations and analytical calculations.
- . An new instrumental analytical technique, Ion Chromatography, will be introduced. This will satisfy the need for low level sulphate ion analysis for samples from acid rain sensitive lakes.
- . As part of an initiative to improve analytical quality assurance, a systematic, uniform approach will be developed by both the Central and Regional Laboratories.
- . Development studies will be initiated or will continue for analytical procedures for fluoride and chloride analysis of vegetation and soil, quantitative recovery of Klebsiella penumoniae sensu stricto, and chemical oxygen demand by an oven digestion/colourimetric procedure.
- . Maintain chemical and microbiological analytical services for Regional monitoring and abatement programs.

VOTE 2103

ENVIRONMENTAL CONTROL PROGRAM

VOTE 2103

ENVIRONMENTAL CONTROL PROGRAM

This program provides for the delivery of programs to protect air quality, surface and groundwater quality and quantity, to manage the disposal of wastes, to ensure an adequate quality of drinking water and to control sources of noise and the use of pesticides. The program also provides coordination for designated critical issues and the orchestration of intergovernmental activities.

Subsidies to Provincial Health Units are provided under Part VII of the Environmental Protection act.

	<u>BUDGETS (\$000's)</u>			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
Environmental Control Program	32,058.9	35,490.6	36,599.8	618	609	605

VOTE 2103

Item 01:

PROGRAM ADMINISTRATION ACTIVITY

This activity includes:

- (1) Office of the Assistant Deputy Minister for Regional Operations.
- (2) Environmental Appeal Board.

A. ACTIVITY ROLE:

To provide management and policy direction for the compliance and environmental approvals and technical support activities within the Environmental Control Program.

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

	<u>BUDGETS</u> (\$000's)			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
Program Administration Activity	624.0	607.0	537.5	4	4	4

VOTE 2103

Item 02:

HEARING PANEL ON INDUSTRIAL WASTE MANAGEMENT ACTIVITY

ACTIVITY ROLE:

To conduct public hearings into the safety and technical acceptability of a suitable site for the establishment of a waste treatment and disposal facility for liquid industrial and hazardous wastes.

	<u>BUDGETS</u>			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
Hearing Panel	180.5	126.0	128.5	-	-	-

VOTE 2103

Item 03:

ENVIRONMENTAL ASSESSMENT BOARD

ACTIVITY ROLE:

To conduct public hearings on proposed sewage works, solid waste disposal sites, industrial waste disposal sites, hazardous waste disposal sites, proposed waste management systems and other environmental oriented matters at the request of the government.

<u>BUDGETS (\$000's)</u>			<u>STAFF</u>		
<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
918.6	1,354.0	1,200.0	10	10	10

More detail on Boards and Committees may be found in the Appendix.

VOTE 2103

Item 04:

INTERGOVERNMENTAL RELATIONS AND STRATEGIC PROJECTS DIVISION ACTIVITY

This activity includes: Office of the Associate Deputy Minister.

A. ACTIVITY ROLE AND OBJECTIVES:

ROLE:

To coordinate the Ministry's approach to designated critical issues and orchestrate its intergovernmental activities.

OBJECTIVES:

1. To provide a responsive structure to deal with designated issues which have a high profile and require coordinated and integrated action by the Ministry.
2. To assist in the development of the Ministry's position to resolve pollution problems shared with other jurisdictions.
3. To develop bilateral and multilateral agreements with other jurisdictions in support of the Ministry's ongoing control strategies.

The Activity is located in the Intergovernmental Relations and Strategic Projects Division which is composed of the following components:

- . Office of the Associate Deputy Minister
- . Intergovernmental Relations Office
- . Emergency Response Coordination Office
- . Strategic Project: Acid Precipitation
- . Strategic Project: Niagara River Improvement
- . Strategic Project: Waste Disposal Sites

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

	<u>BUDGETS</u>			<u>1981-82</u>	<u>STAFF</u>	
	<u>1981-82*</u>	<u>1982-83</u>	<u>1983-84</u>		<u>1982-83</u>	<u>1983-84</u>
Office of the Associate Deputy Minister	120.0	136.0	149.5	-	3	3
Intergovernmental Relations Office	106.2	99.0	101.7	-	2	2
Emergency Response Coordination Office	139.1	148.0	160.9	-	4	4
Acid Precipitation	5,556.0	6,771.4	6,500.0	-	9	9
Niagara River Improvement	-	427.0	433.9	-	1	1
Waste Disposal Sites	-	-	-	-	-	-
	<u>5,921.3</u>	<u>7,581.4</u>	<u>7,346.0</u>	-	<u>19</u>	<u>19</u>

* Figures not available.

C. MAJOR ACCOMPLISHMENTS:

1981-82

Intergovernmental
Relations Office

1982-83

- . Memorandum of Intent on Transboundary Air Pollution
 - Ontario Member of Negotiating Team.
- . Transboundary Agreements Co-Ordinating Committee
 - Ontario Representative.
- . CCREM (Canadian Council of Resource and Environment Ministers) Task Force on Transboundary Objectives - Ontario Representative.
- . U.S. Interstate Legislative Committee on the Great Lakes
 - Ontario Observer
- . Canada-Ontario Accord for the Protection and Enhancement of Environmental Quality, signed in 1975 and currently under review
 - Chairman, Ontario Negotiating Team.
- . International Rainy River Water Pollution Board
 - Member.
- . Great Lakes Water Quality Board, principal advisory body to the International Joint Commission - Member
- . Interministry Committee on the Great Lakes, established by the Premier's office in 1974 - Chairman
- . Canada-Ontario Great Lakes Water Quality Agreement 1982
 - Chairman, Ontario Negotiating Team
 - Member, Board of Review
 - Member, Niagara River Steering Committee.
- . U.S. Great Lakes Commission
 - Ontario Observer.

1981-82

Emergency
Response
Coordination

- . Assisted in Part VIII A E.P. Act Regulations.
- . Prepared 1980 and 1981 Spill Reports Summaries.
- . Revised Ontario Spill Plan.
- . Produced Audio-Visual Spill Training aid "Oil Boom Deployment".
- . Participated in training.
- . Coordinated M.O.E. input into matters relative to Federal "Transportation of Dangerous Goods Act".

1982-83

- . Assessed M.O.E. Roles and preparedness re. spills and other emergencies.
- . Prepared 1982 Spill Reports Summary.
- . Revised Ontario Spill Plan.
- . Participated in Spill Training.
- . Produced training aids.
- . Continued development of regulations of Part IX E.P. Act and Transportation of Dangerous Goods Act.
- . Liaised with governments and industry on contingency planning and response, including Consortium on Spill Training.

Acid Precipitation Study

1.0 Atmospheric Processes Studies:

	<u>1981/1982</u>	<u>1982/1983</u>
a. Emissions Inventory	<ul style="list-style-type: none">. inventory of SO₂ emitters (100 tons/day or greater) for northeastern North America. preliminary NO_x inventory	<ul style="list-style-type: none">. updated. updated. accurate assessment of current SO₂ emissions in Ontario. accurate assessment of current NO_x emissions in Ontario. feasibility study into compiling Ontario volatile organic compounds emissions inventory
b. Modelling and Meteorology	<ul style="list-style-type: none">. statistical model developed and updated. Lagrangian model developed. Phase I for Eulerian model initiated . meteorological data acquisition system used for back-trajectory analyses	<ul style="list-style-type: none">. incorporation of plume height and vertical dispersion. testing with 1979 data. Phase I completed and Phase II initiated. preliminary development of mesoscale model . continued use of system
c. Deposition Monitoring Networks	<ul style="list-style-type: none">. cumulative network established with 35 stations	<ul style="list-style-type: none">. continued operation; data analysis initiated

- . event network established in the London, Kingston, Dorset and Atikokan areas

- . continued operation with monitoring of other LRTAP related substances at a limited number of sites
- . sampler intercomparison studies
- . quality assurance audit completed
- . report on event wet deposition precipitation chemistry data released

d. Oxidants Strategy Development Program

- . draft proposal for Ontario Oxidant Strategy Development completed

2.0 Aquatic Effects Studies

a. Calibrated Watersheds

- . limnological studies on 8 lakes and 32 watersheds in order to develop and refine models that predict the impacts of atmospheric deposition on chemical parameters
- . data collected for diatom-pH relationships
- . preliminary investigation of the influence of lake acidification on the growth of odour causing algae (Chrysochromulina breviturrita)
- . TVA model tested and evaluated for Dorset area; proven effective for predicting monthly flows in gauged and ungauged systems
- . investigation of ground water input into selected streams and watersheds initiated

- . continued with intensive spring and fall run-off studies
- . testing of data for diatom-pH relationships
- . determination of the laboratory conditions required for growth of odour producing algae
- . testing of model continued with emphasis on spring run-off predictions
- . continued field work

- . preliminary survey of the acidity of ground water in Muskoka-Haliburton area expanded
 - . inventory of the acidity of ground water in the Muskoka-Haliburton area completed; report prepared
- b. Fish Toxicity
 - . laboratory studies to determine toxicity thresholds for native fish species
 - . laboratory studies continued; field studies initiated with emphasis on pH depressions during spring and fall
 - . experiments to study metals toxicity, accumulation and effects
 - . fish collection continued; data on body burdens analyzed and geographical area of study expanded
 - . initial data on pH vs Al collected
- c. Extensive Lake Sampling
 - . Acid Sensitivity Survey released
 - . update of Acid Sensitivity Survey released
 - . resurvey of 200 S.E.S. study lakes initiated
- d. Remedial Methodologies Development
 - . joint program (MOE/MNR) announced; contractor selected
 - . study lakes selected: Bowland Lake near Sudbury; Trout and Miskokway Lakes near Parry Sound
 - . routine monitoring initiated
- e. M.O.E./M.N.R. Studies
 - . lake selection underway for joint monitoring of limnology and fisheries

3.0 Terrestrial Effects Studies

a. Vegetation

- . baseline vegetation survey initiated with 30 permanent sites established
- . continued sampling at sites
- . greenhouse experiments with simulated acid rain
- . survey of epiphytic mosses and lichens in selected areas to identify their current viability and distribution to detect further alterations
- . experiments conducted to determine the effects of reduced pH on certain crop species such as radish, soybean and peanuts
- . development and design of an exclusion canopy for dose-response studies on the impact of acid rain on field crops

b. Soils

- . baseline soils survey initiated with over 200 permanent soil sites on various landforms established
- . survey continued
- . initial soil sensitivity mapping by NER and NWR
- . continued development of a soil sensitivity map for Ontario
- . original Department of Agriculture soil survey sites (1940) in southern Ontario revisited and sampled to determine changes in sensitivity
- . soils classified uniformly across the province
- . buffering and leaching experiments in the laboratory to determine soil sensitivity criteria and to enable predictions of various soils to acidic precipitation
- . buffering and leaching experiments continued

c. Biogeochemical Studies

- . two subwatershed study sites selected in Dorset area (Harp and Plastic Lakes); incident, throughfall and stemflow collectors installed; soil lysimeters installed; routine monitoring initiated
- . routine monitoring continued at Dorset subwatersheds
- . littertraps situated
- . complete forest inventories conducted
- . watershed site at Dog Lake near High Falls in the NER selected; routine monitoring initiated
- . mixed forest watershed site at Hawkeye Lake selected for NWR; routine monitoring initiated

4.0 Socioeconomic Investigations

a. Damages and Benefits

- . Amenity Value Survey (external contract) to determine willingness to pay continued; surveys conducted in Muskoka-Haliburton, Kitchener and Waterloo areas
- . Tourism and Recreation Study (external contract) initiated to develop a framework for estimating the effects of acid rain on tourism
- . Financial Values Study initiated by external contractor to estimate effects of acid rain on agriculture, forests, commercial fisheries, buildings and structures and commercial furbearing animals
- . results of report being reviewed and summarized for incorporation into a synthesis report
- . results of study being reviewed for incorporation into a Synthesis report
- . results of study being reviewed for incorporation into a Synthesis report

b. Cost of Abatement and Mitigation

- . continuation of studies contracted by Ontario/Canada Task Force on Inco and Falconbridge (established in 1980)

- . final report of Task Force available

c. Strategy Development and Evaluation

- . study on conceptual design and application of a screening model for the specification and evaluation of strategies completed

- . programming of model initiated; evaluation of options underway

5.0 Legal Initiatives

a. Provincial Initiatives

- . new regulation for Ontario Hydro replaced Ontario Regulation 73/81

- . regulations and control orders for other sources of SO₂ and NO_x under review

b. International Initiatives

- . in June 1981, Ontario presented at Section 126 (Interstate Pollution) Hearings in Washington
- . in October 1981, Ontario intervened in proceedings before the Air Pollution Control Board of the State of Indiana to oppose an increase in limits on SO₂ emissions requested by the Clifty Creek Station; the increase was allowed

- . in July 1982, Ontario intervened before the Michigan Air Pollution Commission in opposition to the Detroit Edison request to delay bringing its Monroe Power Plant into Compliance with the State of Michigan "1% or equivalent" sulphur in fuel rule; the Commission denied Detroit Edison's request.

- . in January 1983, Ontario notified the Indiana Air Pollution Control Board by letter that it was opposed to the request for an increase on SO₂ emissions submitted by the Indianapolis Power and Light Company for its Petersburg Generating Station which was scheduled for discussion at a hearing on February 2, 1983

6.0 Public Relations Initiative

a. Provincial Initiatives

- | | |
|--|--|
| <ul style="list-style-type: none"> . distribution of "Case Again the Rain" . showings of "Crisis in the Rain" . Dorset Open House | <ul style="list-style-type: none"> . continued; update of videotape . continued . Open Houses in Sundridge and Parry Sound . continued |
| <ul style="list-style-type: none"> . preparation of exhibits material | |

b. U.S. Initiatives

- | | |
|--|---|
| <ul style="list-style-type: none"> . screening of "Crisis in the Rain" at various Canadian Consulate Offices in the U.S. . tours for U.S. legislators, congressmen and media . public relations support for interventions | <ul style="list-style-type: none"> . continued . tour for U.S. journalists . continued |
|--|---|

1981-82

Niagara River Improvement

- . Team established in 1982-83

1982-83

- . Tangible changes in international negotiation procedures, information flow and knowledge of the extent and sources of contamination.
- . Improvements to discharge permits and litigation documents.
- . U.S. Environmental Protection Agency (EPA) to change its procedures for landfill site cases under litigation to provide access to confidential information and decision making input.
- . Ontario's industrial and municipal discharges and landfill sites in the Niagara Area have been categorized by priority into four groups.
- . Contributions to the work of the Niagara River Toxics Committee.

1981-82

Waste Disposal Sites

- . Project Originated 1982-83.

1982-83

- . Completion of approximately 1/2 the inventory of certified active waste disposal sites.
- . Preparation of the draft Blueprint for Waste Management.

D. EXPECTED ACHIEVEMENTS

INTERGOVERNMENTAL RELATIONS
OFFICE

1983-84

- . Conclusion of negotiations to clarify federal-provincial roles in revised Canada-Ontario Accord for Environmental Protection.
- . Negotiation of Interagency Agreement on Niagara River Waste Disposal Sites.
- . Conclusion of amendments on Phosphorus Supplement to Canada-U.S. Agreement on the Great Lakes.
- . Development of Provincial Program on Non-Point Pollution Control under the Canada-Ontario Review Board.
- . Participation in Transboundary Air Pollution Agreement negotiations with the United States.
- . Strengthened intergovernmental liaison at all points of contact within the Ministry and in other Provincial Ministries in conduct of affairs of Intergovernmental Relations Office.
- . Intergovernmental Memoranda of Understanding
 - New York
 - Minnesota
 - Quebec.

D. EXPECTED ACHIEVEMENTS:

EMERGENCY RESPONSE COORDINATION OFFICE

1983-84

- . Complete compendium on MOE Emergency Response, provide report to the Minister and coordinate the implementation of the recommendations.
- . Prepare role statement for MOE Manual of Environmental Policies and Guidelines.
- . Redefine M.O.E. role in Order in Council on Lead Ministry Concept (Lead Ministry Coordinating Committee).
- . Revise Ontario Spill Plan.
- . Continue Regulation preparation for Transportation of Dangerous Goods Act, E.P. Act Part IX and the Emergency Plans Act.
- . Prepare 1983 Spill Reports Summary.
- . Participate in Revisions and Exercises associated with "Province of Ontario Nuclear Contingency Off-Site Plan", and "Joint Canada-United States Marine Pollution Contingency Plan" and others.

Acid Precipitation Study

1983 - 1984

1.0 Atmospheric Processes Studies

a. Emissions Inventory

- . update of SO₂ and NO_x inventories
- . accurate assessment of current hydrocarbon emissions from stationary sources

b. Modelling and Meteorology

- . continued validation and updating of statistical and Lagrangian models
- . continued development of Eulerian model
- . continued use of meteorological acquisition system for back-trajectory analyses; interfacing with Lagrangian model
- . mesoscale model development stage completed

c. Deposition Monitoring Networks

- . continued operation of both the cumulative and event networks with data analysis; reports released
- . continued involvement in sampler intercomparison studies, quality assurance audits and special studies such as CAPTEX

d. Oxidant Strategy Development

- . strategy developed with possible preliminary implementation

2.0 Aquatic Effects Studies

a. Calibrated Watersheds

- . continued limnological work on selected watersheds; preliminary mass balance reports available
- . study on Al chemistry continued
- . preliminary investigation of the potential effects on aquatic life of other metals mobilized by the deposition of strong acids
- . continued taxonomy work on odour-causing algae, proliferation of filamentous algae and diatom-pH relationships (rates of change in diatom community structure to be determined)
- . expansion of evaluation of TVA model to include daily flow predictions and spring run-off
- . intensive geologic and ground-water study of the selected lakes to continue

b. Fish Toxicity

- . geographic area for fish contaminants study expanded; annual report prepared
- . continued field and laboratory studies to establish toxicity thresholds
- . continued pH vs Al studies

c. Extensive Lakes Survey

- . update of Acid Sensitivity Survey to be released
- . continued lake sampling

d. Remedial Methodologies Development

- . continued monitoring of three lakes (limnological and fisheries data)
- . application of neutralizing agent to one lake (Bowland Lake)
- . contractor submits regular progress reports

e. Integrated MOE/MNR Studies

- . lakes selection completed and routine monitoring initiated for water chemistry and fisheries data

3.0 Terrestrial Effects Studies

a. Vegetation

- . baseline survey continued
- . lichen and moss study continued
- . greenhouse experiments continued including experiments on white birch sensitivities to acidic precipitation simulants and dose/yield relationships for various agricultural species
- . at the Dorset site, continued monitoring with soil samples collected throughout the watershed plus harvesting of some tree species to determine the extent of nutrient/element storage in the tissue
- . continued upgrading work of the two regional sites and routine monitoring

4.0 Socioeconomic Investigations

a. Damages and Benefits

- . Synthesis Report summarizing findings of Amenity Value Survey, Tourism and Recreation Study and Financial Values Study released early in 1983
- . the methodologies and frameworks developed will be used to explore the consequences of acid deposition under various scenarios
- . Amenity Value Survey to be refined through an expansion of the sampling base
- . work initiated on human response relationships for acid precipitation

b. Cost of Abatement and Mitigation

- . abatement cost functions developed for various sources of SO₂ and/or NO_x

c. Strategy Development and Evaluation

- . continued use of the screening model to evaluate strategy options for reducing emissions

5.0 Legal Initiatives

a. Provincial Initiatives

- . continued review of regulations and/or control orders for other sources of SO₂ and NO_x

b. International Initiatives

- . continued interventions at the state level under Section 110 of the U.S. Clean Air Act
- . continued support of New York and Pennsylvania under Section 126 of the U.S. Clean Air Act
- . investigation of the possibility of Ontario intervening under Section 115 (International Pollution) of the U.S. Clean Air Act

6.0 Public Relations Initiatives

a. Provincial Initiatives

- . update of "The Case Against the Rain" brochure
- . update of exhibits for use in displays
- . Dorset Lab Opening and Open House

b. U.S. Initiatives

- . additional tours for U.S. legislators, congressional aides and/or media
- . continued support of legal initiatives
- . preliminary planning and publicity for Canadian International Conference in 1985

1983-84

Niagara River Improvement

a. SPDES Permits

- . Twelve permits for municipal and industrial dischargers were reviewed and comments sent to New York Department of Environment Conservation (DEC) in 1982.
- . Approximately thirteen permits for major dischargers remain to be reviewed in 1983, including those for Hooker Chemicals, Bethlehem Steel, and the Buffalo Wastewater Treatment Plant.

b. Waste Disposal Sites

S-Area

- . The litigation proceedings will continue to be monitored and Ontario's views and interests addressed through intervention or negotiation.

Love Canal

- . Remedial work to be done in 1983 will be monitored, and Ontario's views based on our recently completed hydrogeologic evaluation will be expressed to the US authorities.

Hyde Park

- . Our views on remedial work proposals will be expressed to EPA in the next few months as the results of recent on-site well monitoring become available.

102nd Street

- . A hydrogeologic evaluation will be commissioned, and subsequent action through intervention or negotiation will be recommended to the Minister.

Hooker Durez

- . Developments will be monitored, and appropriate action will be recommended to the Minister.

Lake Ontario Ordinance Works, Lewiston

- . Site is used for storage of radioactive wastes;
- . The situation will be evaluated and appropriate action recommended to the Minister.

c. Niagara River Toxics Committee

- . This is the third year of the Committee's work, and its final report is scheduled for completion by next December.
- . MOE will provide technical input to the report itself, and also assistance with the associated public communications program.

d. Identifying New Problems

- . MOE will identify any new issues that arise relating to contamination of the River, and for any changing focus of public interest or attention.
- . The implications for the rest of Ontario of actions and policies developed to meet the needs of the Niagara area will be continually checked.

1983-84

Waste Disposal Sites

- . Completion of the inventory of certified active waste disposal sites.
- . Finalization of the Blueprint for Waste Management.
- . Participation in the public review of the Blueprint.

VOTE 2103

Item 05:

COMPLIANCE ACTIVITY

Compliance activities are centred in the 6 Regional Offices and are composed of the following Sections in each Region:

- . Directors Office,
- . Administrative Services,
- . Industrial Abatement, and
- . Municipal and Private Abatement

The Regional Offices each share the following responsibilities:

A. REGIONAL ROLE AND RESPONSIBILITIES:

ROLE: To deliver programs

- (a) to protect air quality,
- (b) to protect surface and ground water quality and quantity,
- (c) to manage the disposal of wastes,
- (d) to ensure an adequate quality of drinking water, and
- (e) to control the use of pesticides.

RESPONSIBILITIES:

1. To administer programs for the regulation of pollution sources.
2. To administer regulations for the proper construction and operation of water wells.
3. To administer plans and policies for the proper development, operation and closure of waste disposal sites and the proper operation of waste management systems.
4. To administer regulatory mechanisms for the storage and use of pesticides.
5. To manage and operate Ministry water and sewage plants and systems.
6. To monitor the quality of the natural environment.
7. To respond to public complaints and environmental emergencies.
8. To review land-use plans in order to encourage environmental safeguards in land development.
9. To evaluate environmental assessments of proposed undertaking and monitor environmental assessment recommendations.
10. To administer regulatory programs for water use to provide for a fair sharing of available resources and maintenance of water supplies.
11. To monitor and investigate discharges to the environment.
12. To contribute to water management plans which will allow for multiple water uses.
13. To administer programs for the control of noise.

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

<u>CENTRAL REGION:</u>	<u>BUDGET (\$000's)</u>			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
1.0 Director's Office and Administration	614.2	596.0	692.4	17	17	16
2.0 Industrial Abatement	1,463.3	1,674.0	1,818.5	43	43	43
3.0 Municipal and Private Abatement	1,956.1	1,804.0	1,886.8	54	49	45
 <u>WEST-CENTRAL REGION</u>						
1.0 Director's Office and Administration	380.9	372.0	463.6	8	8	9
2.0 Industrial Abatement	977.3	1,068.0	1,133.6	28	27	28
3.0 Municipal and Private Abatement	895.0	876.0	1,148.6	24	24	22
 <u>SOUTHWESTERN REGION</u>						
1.0 Director's Office and Administration	450.9	436.0	474.9	11	11	11
2.0 Industrial Abatement	763.7	881.0	932.9	22	22	22
3.0 Municipal and Private Abatement	1,111.4	1,061.0	1,210.9	32	31	30

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

	<u>BUDGET (\$000's)</u>			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
<u>SOUTHEASTERN REGION</u>						
1.0 Director's Office and Administration	440.5	431.0	463.7	10	10	10
2.0 Industrial Abatement	640.8	751.0	784.9	21	21	21
3.0 Municipal and Private Abatement	1,041.6	981.0	1,230.4	28	27	27
 <u>NORTHWESTERN REGION</u>						
1.0 Director's Office and Administration	339.5	330.0	362.0	9	9	9
2.0 Industrial Abatement	400.5	480.0	511.5	11	11	11
3.0 Municipal and Private Abatement	584.3	540.0	584.5	15	14	14
 <u>NORTHEASTERN REGION</u>						
1.0 Director's Office and Administration	365.4	357.0	476.9	9	9	10
2.0 Abatement East	1,094.8	1,117.0	1,154.1	30	25	25
3.0 Abatement West	<u>762.1</u>	<u>1,090.0</u>	<u>960.7</u>	<u>17</u>	<u>21</u>	<u>19</u>
TOTALS	<u>14,282.8</u>	<u>14,875.0</u>	<u>16,450.9</u>	<u>407</u>	<u>379</u>	<u>373</u>

C. MAJOR ACCOMPLISHMENTS:

1981-82

1982-83

Central Region

1.0 Director's Office and Administration

. Provided support services including central records and library, handling correspondence and reports, processing attendance records, review of Branch budget status, reception and mailing service, maintaining a complaints desk, controlling purchasing, payments of accounts and handling of personnel matters requiring recruitment.

. Provided support services including central records and library, handling correspondence and reports, processing attendance records, review of Branch budget status, reception and mailing service, maintaining a complaints desk, controlling purchasing, payments of accounts and handling of personnel matters requiring recruitment.

2.0 Industrial Abatement

a. Control Orders

Banner Packing Ltd.- rendering odours

Glidden Company - odour emissions

A.R. Clarke & Co. Ltd.- particle and odour emissions

Anchor Cap & Closure - stack installations

John T. Hepburn Ltd. - emissions from furnace

St. Lawrence Cement - complied with Control Order install precipitator and bag collectors.

Program Approvals:
Inmont Canada Ltd. - odour emissions
Nacan Products - odour emissions

b. Significant Abatement Actions

Northern Castings - after burners for air emissions

Northern Castings - approvals for bag house

Medonte Derailment - emergency co-ordination monitoring and clean up.

Medonte derailment - debriefing and planning meetings.

1981-82

1982-83

- 258 -

b. Significant
Abatement Actions
(cont'd)

Ford Motor Company - conversion to natural gas

Raybestos Manhattan - wet pelletizing continuous sampling equipment, fewer exceedances of guidelines

Raybestos Manhattan - improved emission system for recycling of air

Union Carbide - ammonia wastes stored in lagoons and sewered to municipal plant

Union Carbide - evaporator and crystallizer installed to recycle wastes; leakage of 1 lagoon.

Eldorado Nuclear Ltd. - monitoring of fluoride emission; review of expansion plans.

ENL - "approval" of expansion and increased monitoring of facilities.

Kellogg Salada - conviction for waste treatment facility.

Kellogg Salada - improvements to treatment facility.

CPW Disposals - groundwater monitoring for (Chem King) spill effects, public meetings; successful prosecution.

CPW - upgrading of facilities and handling practices; new Certificate of Approval

F.W. Fearman - installed scrubber for odour

F.W. Fearman - review of scrubber operation and system improvements.

Anachemia Solvents - process and equipment modification for odour control.

Anachemica - operation review and equipment monitoring.

Surpass Chemicals Ltd. - spill containment system for tank farm.

Gordon Young Ltd. - Odour Control
Riverdale Hospital - Conversion
Natural Gas.

Tonolli Canada Ltd. - Rotary dryer for aluminum turnings; converted to natural gas; after burners modified.

North York Hospital - Garbage Compactor
John T. Hepburn - Sand reclamation and storage. Gravel Pit Surveillance - prevention of illegal disposal to protect groundwater.

	<u>1981-82</u>	<u>1982-83</u>
b. <u>Significant Abatement Actions</u> (cont'd)	Mintex Brake Product - Baghouse for asbestos control	
	Southam Murray Printing - Catalytic incinerators for odour control.	Liquid Waste haulers - surveillance program for illegal disposal and way bill infractions.
	Westcane Sugar - Enclosed storage of sugar.	
	Lake Ontario Steel - Pelletizer for dust emission.	
	General Motors - Natural Gas.	Dorcan - installation of electric furnace.
		RCA Midland - decommissioning of closed facilities and site.
	Accurate Industrial Waste & CPR - conviction for illegal dumping.	
	Gulf Canada Ltd. - Flare gas recovery, reduced H ₂ & SO ₂	Gulf Canada Ltd. - Phenolic waste treatment system.
		Hercules - odour reduction.
		IKO Industries - odour control system.

	<u>1981-82</u>	<u>1982-83</u>
3. <u>Municipal and Private Abatement</u>		
a. <u>Waste Sites</u>		
. No. of sites	166	162
. No. of sites - groundwater concerns	7	9
. No. of sites - surfacewater concerns	12	6
. No. of sites - gas migration problems	7	4
		. negotiation of closure of Whitchurch - Stouffville Waste Site
b. <u>Sewage Works</u>		
. No. of municipal sewage plants	51	51
. No. of meetings effluent criteria	41	42
		. Completion of connection of several areas at Hidden Valley to Huntsville STP

1981-82

1982-83

3. Municipal and
Private Abatement
(cont'd)

- | | | |
|---------------------------|--|--|
| c. <u>Water Supplies</u> | . Construction of water filtration facilities in Tower of Gravenhurst and Village of Hastings. | . Wasbago Plant under construction.

. Studies underway at Collingwood and at Post McNicole. |
| d. <u>Private Systems</u> | | . Pollution survey in Newtonville. |
| e. <u>Sewage Systems</u> | . Part VII workload of 1,000 applications for system certificates, and 900 lot inspections and severences. | . Part VII workload of 1,000 applications for system certificates, and 900 lot inspections and severences. |

1981-82

1982-83

West-Central Region

1.0 Director's Office and Administration

- . Provided an efficient Regional purchasing and accounting service in the issuance of 560 Local Purchase Orders and cheques (including petty cash) totalling \$228,297.
- . The Word Processing Centre accommodated the increased workload created by the inception of the four Officers in the Special Investigations Unit. It is estimated that 50 man-days were dedicated to the Unit.
- . Arranged the relocation of Regional and District Office staff from Stoney Creek to the Ellen Fairclough Building, Hamilton Place.
- . Conducted an Occupational Health and Safety program which is illustrated by the following indicators:

(a) <u>Training Courses</u>	<u>Staff</u>
First Aid (including refresher)	71
Confined Space Entry	26
Emergency Chlorine Kit Workshop	54
 (b) Plant Inspections - 41	
Sound Level Surveys - 3	

- . There was a 12.5% increase in Local Purchase Orders processed due in part to the raising of limit from \$200 to \$500 per requisition. Cheques issued (including petty cash) totalled \$277,822.
- . The administrative re-organization within the Assistant Deputy Minister's Office placed additional clerical support demands on the Regional office staff. The requirement for improved electronic communications to the A.D.M's office and the workload created by the Special Investigations Unit and the Niagara River Study Team dictated a need to install three word processor units.

(a) <u>Training Courses</u>	<u>Staff</u>
First Aid	77
Confined Space Entry	10
Emergency Chlorine Kit Workshop	4
 (b) Plant Inspections - 32	
Sound Level Surveys - 3	

1981-82

1982-83

2.0 Industrial Abatement

- . Rothsay Concentrates Co. Moorefield installed new scrubbing equipment and replaced meal drying equipment to reduce odour emission.
 - . Stelco, Hamilton completed several air and water control projects at the Hilton works at a cost of \$15 million including:
 - control of charging emissions and improvements to the main exhaust controls at the B.O.F. steel furnaces improving the opacity of emissions
 - modified water treatment facilities for Blast Furnaces reducing contaminant discharge (suspended solids, cyanide, ammonia) by 80%
 - a new sequential charge car for coke oven and a new stack and scrubber at the sinter plant for an estimated particulate reduction of 2 million lbs/yr.
 - . Dofasco, Hamilton completed projects costing \$5.9 million including:
 - a new scrubber at No.1 melt shop and equipment modifications at No. 1 coke plant reducing the opacity of the emissions
 - improvements in water treatment reducing suspended solids significantly and ammonia discharge by 500 lbs/day.
- . Rothsay Concentrates Co., Moorefield completed installation of a new waste water treatment facility at a cost of \$1 million to virtually eliminate odour from that source.
 - . Stelco, Hamilton completed several air and water control programs at the Hilton Works (cost - \$7.7 million) including:
 - improved systems for control of charging and pushing emissions at coke ovens reducing the opacity of emissions and particulate loss substantially
 - modifications to operation at the Open Hearth furnaces reducing particulate loss by 50%
 - modification to the acid regeneration plant effluent system
 - several plant effluent system projects were also completed at the Nanticoke plant.
 - . Dofasco, Hamilton completed improvements to air and water control systems at a cost of \$3.4 million including:
 - improvements to coke oven emission control reducing opacity and particulate emission

1981-82

1982-83

2.0 Industrial Abatement

- . Columbian Chemicals Ltd., Hamilton replaced 3 fabric filters at a cost of 1.2 million to reduce equipment failure and resultant carbon black emissions.
 - . Orenco Ltd., Dundas installed additional scrubbing systems to reduce rendering odour emissions at a cost of \$150,000.
 - . Ontario Hydro installed an oil containment boom in the discharge channel at the Nanticoke TGS at a cost of \$150,000.
 - . A variety of projects both air and water systems were completed at Texaco Canada refinery in Nanticoke at a cost of \$600,000.
 - . General Motors in St. Catharines completed several projects including dust collection, scrubbing and boiler conversions total cost \$1.8 million.
 - . Union Carbide, Welland completed a system for reduction of fugitive particulate emissions - cost \$6.8 million.
- improvements to the by-product plant effluent reducing ammonia loss.
 - . General Motors, St. Catharines installed electrostatic precipitation and scrubbing equipment reducing particulate emission from several sources by an estimated 90% (cost \$600,000).
 - . Atlas steel, Welland, largely completed installation of a solidification plant to treat waste acids and other wastes at a cost of \$6.5 million.
 - . Cyanamid, Welland installed baghouse and scrubbing equipment at a cost of \$1.8 million reducing loss of particulate by 99%.
 - . Union Carbide, Welland improved control of odour emission by installation of equipment costing \$500,000.
 - . IMC, Dunnville completed projects to reduce air and water emissions at a cost of \$375,000.
 - . Ontario Hydro completed several projects at Nanticoke at a cost of \$2 million including installation of opacity meters on units 1 & 5 and control of fugitive emissions at the ash storage lagoon and installation of low NOx burners on unit #5 (25% reduction in NOx).

1981-82

1982-83

3.0 Municipal and Private
Abatement

Water works

- . expansion completed to Brantford water works
- . Haldimand-Norfolk Regional water supply extended to Jarvis & Hagersville
- . a low cost alternative project to upgrade the St. Williams cooperative communal water works was completed
- . expansion completed of the Welland water treatment plant
- . extension of the water supply from St. Catharines (DeCew) to Vineland
- . Hamilton water plant upgraded to provide treatment of filter backwash water at the sewage plant instead of discharging to Redhill Creek

Water works

- . 58 municipal systems, 127 private systems
- . studies completed for provision of two municipal systems in small communities under the low cost alternative program
- . water quality being upgraded in Elora and Erin
- . two controversial water supply sources in Niagara-on-the-Lake were replaced by extending trunk mains from the St. Catharines (DeCew) water supply system
- . Port Colborne treatment plant completed and in operation
- . Major renovations to Niagara Falls plant
- . special study re trace organics removal underway at Niagara Falls treatment plant.

1981-82

1982-83

3.0 Municipal and Private
Abatement (cont'd)

Sewage works

- . new treatment plant completed for Village of St. George
- . plant expansions completed in New Hamburg and Shelburne
- . completion of a three year program of plant rehabilitation resulted in marked improvement to the Hamilton sewage plant
- . a low cost alternative study for Lynden and Sheffield was undertaken
- . the new Port Colborne Seaway plant became operative
- . sewer construction and rehabilitation in Crystal Beach continuing in order to eliminate pollution problems and by-passing of sewage into Lake Erie.

Sewage works

- . 57 municipal plants, 27 private systems
- . plant expansion completed at Paris
- . Orangeville to commence construction of pre-nitrification plant which will be first in Ontario
- . Further upgrading of Hamilton plant; sewage sludge processes improved
- . Studies completed on conversion of Waterford lagoon to seasonal discharge
- . Sewer construction in Pelham (Fenwick) completed and in use
- . Welland plant upgraded to meet Ministry phosphorus requirement (1 ppm)
- . Sewerage works (lagoon) in Stevensville/Douglastown (Fort Erie) essentially complete.

1981-82

1982-83

3.0 Municipal and Private
Abatement (cont'd)

Waste Management

- . study completed on liquid industrial wastes in Waterloo Region
- . hydrogeologic studies completed on two landfill sites
- . study of Haldimand-Norfolk solid waste management options undertaken
- . formal closure of old landfill sites in Hamilton-Wentworth implemented
- . "Energy from Wastes" study completed by consultant for Regional Niagara.

Waste Management

- . 65 active landfill sites, 20 closed sites requiring monitoring
- . Two hydrogeologic studies carried out under program of Financial Assistance to Municipalities for waste site improvement
- . Abatement programs resulted in improvement in operation of Haldimand-Norfolk transfer stations and landfill sites
- . Close out of Hamilton-Wentworth landfill sites completed
- . Identification of potential contamination problems at two closed landfills in Hamilton-Wentworth Region
- . Operational problems at SWARU identified resulting in a voluntary 20% cut-back in operation
- . A study to implement Haldimand-Norfolk's waste management plan was undertaken.

1981-82

1982-83

3.0 Municipal and Private
Abatement (cont'd)

Pesticides

- . pesticide use permits: 119 applications reviewed for restricted use
- . 112 pesticide related complaints investigated
- . 152 man days spent on training and examination of applicants for exterminator licensing
- . 75 man days spent on inspection of pesticide vendors and exterminators.

Pesticides

- . Pesticide use permits: 99 applications reviewed for restricted use
- . 141 pesticide related complaints investigated
- . 57 man-days spent on training and examination of applicants for exterminator licensing
- . 10 man-days spent on vendor inspections.

1981-82

1982-83

Southwestern Region

1.0 Director's Office and Administration

. Installation of word processing equipment in Windsor and Owen Sound.

. Installation of computer equipment in the Region.

2.0 Industrial Abatement

a. Emergency Response Preparedness

. upgraded emergency van and equipment including communications

. conducted a major staff training effort including a mock exercise.

b. Oil Field Brine Disposal

. examination of brine disposal alternatives jointly with M.N.R. and oil producers culminating in M.O.E. funding of a major geological study.

c. Enforcement Actions Relating to Livestock Farms

. initiated prosecutions of a number of farmers concerning mismanagement of livestock manure resulting in severe environmental impact. This problem is widespread in the Region and it is hoped that prosecutions will serve as a deterrent.

1981-82

1982-83

3.0 Municipal and Private
Abatement

- . Examined feasibility of energy from waste project at Victoria Hospital
- . Planning rehabilitation of Fighting Island
- . Windsor sludge now being utilized as soil conditioner
- . Essex County and Windsor waste disposal sites developed upgrading plans
- . Expansion of St. Thomas sewage treatment plant
- . London sewage treatment plant upgraded.

- . Environmental assessment and pilot project were initiated for Fighting Island
- . Process begun for 20 year master plan for Essex and Windsor waste disposal
- . Kent County and Chatham initiated feasibility study of Central incinerator
- . County of Bruce waste management study initiated
- . Sampling of organic chemicals at several water works along the Lake St. Clair, Detroit River Areas.

1981-82

1982-83

Southeastern Region

1.0 Director's Office
and Administration

- . Co-ordinated all administrative requirements for the Assistant Deputy Minister's office.
- . Provided support services for the Southeastern Region in the personnel, supply, finance and administration areas.
- . Provided a delegated personnel function and met requirements for staffing and budget administration.
- . Provided a comprehensive safety program for the entire region.

- . Provided support services for the Regional and District staff in the areas of personnel, finance, supply and administration.
- . Provided an efficient Word Processing operation for the entire Region.
- . Co-ordinated all administrative requirements for the Assistant deputy Minister's Office.
- . Met all requirements for staffing and budget administration.

2.0 Industrial Abatement

- . A Krofta clarifier was installed at Strathcona Paper to reduce suspended solids
- . Odours at Universal Grinding wheel in Brockville were abated and also at Iroquois Chemicals
- . Noise problems at Brockville and Picton were corrected

- . Provided a comprehensive health and safety program for the Region and plant operations.
- . Suspended solids were reduced from 500 to 200 lbs per hour in the effluent being discharged from DuPont, Maitland
- . Two clarifiers were installed at Trent Valley Paper to eliminate effluent discharge

1981-82

1982-83

Southeastern Region

2.0 Industrial Abatement
(cont'd)

- . Thirteen wells were drilled at Algonquin to replace those contaminated by gasoline
- . A \$500,000 baghouse was installed in Chromasco at Haley, reducing emissions by more than 99% on the west side vacuum residue system
- . Control Orders were served on Domtar Fine Papers at Cornwall and C.I.P. in Hawkesbury
- . Waste water treatment was installed at Kraft Foods, Ingleside and effluent treatment was improved at BASF, Cornwall.
- . Construction of a retention pond, berms, new leachate collection system and a new arsenic treatment plant at Deloro was effected at a cost of \$1. million
- . Upgrading of the O.E. MacDougall Liquid Waste Transfer Station was substantially completed
- . Festival Sales and Products was convicted on smoke emissions.
- . Preliminary work was done on corrective measure to remove PCB contaminated soil in the vicinity of Lake Clear

1981-82

1982-83

2.0 Industrial Abatement
(cont'd)

. Improved dust collection facilities were implemented at Domtar Construction in Cornwall. Ivaco agreed to improve its baghouse collection

- . A \$400,000 baghouse was installed by Chromasco on the east side vacuum residue system, reducing those emissions by more than 99%.
- . A \$250,000 filter press installation was installed by E.B. Eddy to dewater sludge from the process effluent clarifier, completing its Control Order.
- . Implementation of Control Orders resulted in a 50% improvement in H₂ emissions at Domtar Fine Papers and some improvement in SO₂ emissions at CIP, whose mill later closed on December 1, 1982.
- . Improvements in H₂S collection and incineration at Courtaulds reduced fugitive emission by 55%.
- . Installation of phosphorus removal at Nestle (Chesterville) gave an 85% reduction in phosphorus loading to the South Nation River.
- . BOD and acid discharge from BCL, Cornwall were reduced by 25 and 15% respectively.
- . Pfizer has made a commitment to install full pretreatment in 1983-84, since their effluent was adversely affecting phosphorus removal at the Cornwall STP.

1981-82

1982-83

2.0 Industrial Abatement
(cont'd)

- . Ivaco installed new dust collectors, removing a continuing source of complaints.
- . A program to reduce formaldehyde fumes at Bakelite Thermosets (Belleville) was partially completed.
- . O.E. MacDougall Liquid Waste and Systems Company Limited will be ordered to investigate leachate migration and correction of contaminated groundwater.
- . Upgrading plans for the biological effluent treatment plant at Canada Starch (Cardinal) will be tackled.
- . DuPont's (Maitland) suspended solids effluent to the St. Lawrence River will be addressed as will the upgrading of its waste disposal site.
- . Air Resources will be requested to monitor air emissions with the TAGA in the vicinity of DuPont and Nitrochem for hazardous substances.
- . Bakelite Thermosets (Belleville) is to improve efficiency of its formaldehyde plant absorption system.
- . Effluent disposal from the sulphur dioxide scrubbers at Haley Industries will be addressed.

1981-82

2.0 Industrial Abatement
(cont'd)

1982-83

- . Reduction of dust emissions from the ferrosilicon grinding at Chromasco will be attempted, and also at R.J. Stampings
- . Reduction of organic vapours at Bell Northern Research, noise abatement at Steep Rock Calcite, negotiation of replacement of pathological incinerator at National Defence Medical Centre will be addressed
- . Completion of Control Order at Domtar Fine Papers should reduce suspended solids by 50% and reduce chlorine, chlorine dioxide and hydrogen sulphide emissions
- . Phosphorus removal facilities at Kraft Foods (Ingleside) should reduce loading by 90%
- . Pre-treatment at Pfizer (Cornwall) will eliminate the BOD and citric acid discharge problems in the sanitary sewer system
- . A 50% reduction in BOD and suspended solids and a 90% reduction in phosphorus is expected at Ault Foods (Winchester)
- . Improvements and modernization should reduce BOD, H₂S, and CS₂ emissions at Courtaulds (Cornwall)
- . Upgrading of the biological treatment plant at Caldwell Linen Mills (Iroquois) will solve a severe odour problem at the STP.

3.0 Municipal and Private Abatement

1981-82

1982-83

- . Perth: Phosphorus removal made operational
- . Iroquois: Expansion of sewage treatment facilities completed (\$0.50M)
- . Waste Disposal Sites: 2 poor sites closed; 1 new site opened; 21 sites improved under Waste Management Improvement Program
- . Pesticides: Examinations 185
Aerial Spraying Permits 60
Applications to Water Permits 110
Structural Permits 69
Land Permits 2
- . Stormwater: Rideau River Stormwater Management Study Phase I completed.
- . Complaints: Investigated 920
- . Private Sewage Systems: Applications received 514
C of As issued 493
Use Permits issued 364
Severences processed 416
(848 lots)
Subdivisions processed 10
(147 lots)

- . Pembroke: Phosphorus removal now operational; Water/sewage infrastructure program underway.
- . Foymount: Servicing problems resolved (\$100,000)
- . Embrun: Waterworks under construction (\$3.8M)
- . Napanee: Water pipeline from Lake Ontario under construction
- . Rockland/Clarence Township: Joint waste management study completed (\$9,000)
- . Waste Disposal Sites: 2 illegal and 3 poor sites closed, 1 new site opened, 17 sites improved under Waste Management Improvement Program
- . Pesticides: Examinations 205
Aerial Spraying Permits 5
Application to Water Permits 115
Structural Permits 49
Land Permits 7

1981-82

1982-83

3.0 Municipal and Private
Abatement

. PSF Program Status: Projects requested 64
Projects approved by MBR 41
Projects in implementation 18
Total MOE financial commitment \$6M
Manpower 633 m-d

. Stormwater: Rideau River Stormwater Management Study (Phases II & III), leading to the development of a stormwater management strategy for the Rideau River System in the Regional Municipality of Ottawa-Carleton completed (\$270,000)

. Complaints: Investigated 930

. Private Sewage Systems: Applications received 713
C of A's issued 661
Use Permits issued 467
Severences processed 348
(698 lots)
Subdivisions processed 8
(168 lots)

. PSF Program Status: Projects requested 136
Projects approved by MBR 81
Project in implementation 45
Total MOE financial commitment \$9M
Manpower 695 m-d

1981-82

1982-83

Northwestern Region

1.0 Director's Office
and Administration

- . Development and completion of the resource allocation priority worksheets.
- . Development of a multi-year plan for the Northwestern Region.
- . Development of a comprehensive regional safety inspection and training program.
- . The safety equipment and field locations were inspected and upgraded to provide safety protection for staff.
- . Initiation of a comprehensive budget control program for the Region in order to control budget expenditures.
- . Upgrading the word processing and communicating capabilities for the Region.

- . Provided adequate support in the areas of finance, personnel and administration for the entire Northwestern Region
- . Operated effective and efficient Word Processing Center
- . Met all requirements for staffing and budgetary administration
- . Coordinated all administrative requirements for the Assistant Deputy Minister's Office
- . Maintained an up-to-date records management and library program
- . Provided a comprehensive Occupational Health and Safety education and accident prevention program for the entire Region

2.0 Industrial Abatement

- . Issued Control Orders for the following companies: Northern Wood Preservers, Great Lakes Forest Products Limited, Thunder Bay, Great Lakes Forest Products Limited, Dryden, Boise Cascade, Kenora.
- . Held public meetings for the proposed operation of the following gold mines: Consolidated Luanna, PanContinental, and Goldlund.

- . Issued Control Orders to two pulp and paper companies and one major saw mill operation
- . Completed two major surveys at gold mines in Red Lake
- . Initiated the I.M.I.S. program in the Region

1981-82

2.0 Industrial Abatement
(cont'd)

1982-83

- . Undertook a major in-depth toxicity monitoring program for the ten pulp and paper companies and four mining operations in the Region. The study will continue for a number of years
- . Re-evaluated all industrial waste disposal sites in the Region and requested operations plans and recertification where necessary
- . Developed a more comprehensive contingency plan for the Region including the design and outfitting of two emergency vehicles
- . Developed a number of software programs for the input storing and manipulation of data for all sections of the Region on the Regional computer
- . Successfully prosecuted two companies for environmental violations

1981-82

1982-83

2.0 Industrial Abatement
(cont'd)

- . Successfully prosecuted the following companies for EPA violations:
Northern Wood Preservers, Thunder Bay
Boise Cascade - Fort Frances;
Kimberly-Clark - Terrace Bay; American
Can - Marathon.
- . Purchased a new mini-computer for the
Regional Office in order to
efficiently handle the data for all
section in the Northwestern Region.

- . Undertook a major in-depth toxicity
monitoring program for the ten pulp
and paper companies and four mining
operations in the Region. The study
will continue for a number of years
- . Re-evaluated all industrial waste
disposal sites in the Region and
requested operations plans and
recertification where necessary
- . Developed a more comprehensive
contingency plan for the Region
including the design and outfitting
of two emergency vehicles
- . Developed a number of software
programs for the input storing and
manipulation of data for all sections
of the Region on the Regional
computer
- . Successfully prosecuted two companies
for environmental violations

1981-82

1982-83

3.0 Municipal and Private
Abatement

- . Completed a total of 234 cottage surveys in Thunder Bay and the Atiokan area.
 - . New landfill sites serving the Kenora, Keewatin and Balmertown-Red Lake area were put into operation.
 - . Leachate studies were initiated for landfill sites serving Marathon, Manitouwadge and Thunder Bay.
 - . Pollution surveys and water quality/quantity studies were conducted at Rosslyn Village, Rosspport, Hudson, Minaki and Cochenour.
 - . Low cost alternative water projects were completed in Rosspport, McLeod Township and Hardrock Community.
 - . Completed phase 1 of a new water distribution system for the Township of Schreiber.
- . All water and sewage plants were inspected in the Region. Reports/letters have been prepared where concerns over problems have been noted
 - . All municipal waste disposal sites were inspected and reports prepared. Most Ministry of Natural Resources' sites were inspected and reports completed (some remote sites were not inspected)
 - . Staff have been involved in the development of water and sewage projects in various municipalities or communities in unorganized areas such as in Madsen, Armstrong, Hardrock Townsite (near Geraldton) and Barwick (Johnson's Landing)
 - . Unexpected work relating to Part 7 resulting from the withdrawal of Northern Ontario Public Health Services required a considerable amount of time and travel and disrupted some scheduled work
 - . The Section has been actively involved in the administration of the pesticides program. The program included pesticide use and permits, i.e.: conifer leave spraying, spruce budworm spraying, training

1981-82

1982-83

Northeastern Region

1.0 Director's Office and Administration

- . Installed a new telephone system for the Sudbury Regional Office to reduce operating costs and provide better service to the public and employees
 - . Out watts lines installed in District Offices to increase level of service and reduce costs
 - . Initiated update of the Region's Central File System
- . Finalized and implemented revised file system
 - . Upgraded Regional Office Word Processing Equipment
 - . Replaced Regional Office photocopier with a new, more cost-effective unit
 - . Assisted in the preparation of a Feasibility Report, Request for proposal and evaluation of proposals, leading to the selection of a Data Point System, for the Regional Distributed Data Processing

1981-82

2.0 Abatement East

- . The MacMillan Bloedel Limited, Pulp and Paper Mill at Sturgeon Falls undertook extensive additions to its primary treatment facilities to remove suspended solids from wastewater discharges to the Sturgeon River
- . Village of Magnetawan waste disposal site was closed off and with the aid of Waste Management Improvement Contract funds from M.O.E., the area restored. Arrangements were made to dispose of garbage at the existing Township of Chapman site
- . The Ministry contracted out the Part VII (septic tank) inspection program to the private sector
- . The first Private Services funding program in an unorganized area (Township of MacPherson, District of Nipissing) was undertaken. The small community of Lavigne of approximately 160 residences, had new sewage systems installed or systems repaired as required
- . Levesque Plywood of Hearst was under a Control Order by the Ministry to eliminate a teepee burner used to dispose of waste. They failed to do so and the Ministry charged the company with excessive emissions. The trial resulted in a \$1,500.00 fine, as well as having the teepee burner shut down

1982-83

- . MacMillan Bloedel Limited, Sturgeon falls, undertook detailed investigations into an anaerobic treatment system for removal of biochemical oxygen demanding substances from mill wastewaters. The work included laboratory simulation of the proposed system and a larger pilot plant model to be established at the mill
- . C.P. Rail of North Bay undertook a substantial replacement program of its oil separator facilities to eliminate periodic oil losses to Lake Nipissing. Additional work was undertaken to enhance the appearance of the shoreline of Lake Nipissing in the vicinity of the rail yards
- . An 87.7 kilometre, 36-inch natural gas pipeline was constructed between North Bay and Mattawa as part of a major Trans Canada Pipelines Limited installation to serve eastern markets
- . Reichhold Limited of North Bay installed a biological treatment plant to pretreat wastewater prior to discharge to the municipal sanitary sewer systems. The plant is expected to reduce the discharge of biochemical oxygen demanding substances to within sewer use bylaw requirements

1981-82

1982-83

2.0 Abatement East
(cont'd)

- . The Vaillancourt Trailer Park consisting of 54 units was under order by the Medical Officer of Health to shut down or provide suitable sewage treatment. The Township undertook to provide suitable communal treatment through the use of a lagoon. The construction is expected to be completed by spring of 1983
 - . In the past, hundreds of thousands of gallons of diesel fuel were spilled at the CNR train re-fuelling station at Hornepayne, resulting in an oil slick on the Jack Fish River each spring. The Ministry successfully prosecuted the company for discharge, resulting in a \$3,000.00 fine and the construction of approximately \$0.5 million control features
 - . The Ministry of Northern Affairs and the Ministry of the Environment had a low pressure sewage collection system and lagoon constructed in the Municipality of Belle Vallee. The system cost approximately 40% of what a conventional system would have cost to service the municipality
- . An Amended Control Order was placed on Spruce falls Power and Paper Company Limited which will result in a reduction of the BOD discharged from approximately 80 tons per day in 1982 and 30 tons per day by June 1983

1981-82

1982-83

3.0 Abatement West

- . A total close out of the Moose Mountain (National Steel Mine) facility required grading, seeding and diversionary ditching for tailings areas as well as the removal of PCB containing electrical equipment at an approximate cost of \$250,000
 - . New sewage and water treatment plants were constructed to service the Town of Elliot Lake at a cost of \$28,000,000
 - . The old waste disposal site at Elliot Lake was closed and replaced with a new engineered site as identified by the Ministry's Waste Management Study program
 - . Drainage works and retention ponds were installed per Ministry guidelines at Elliot Lake townsite to ensure the long-term protection of Esten Lake as a trout fishery from extensive planned developments
 - . At Elliot Lake, the pH of Quirke Lake returned to above 6 for the first time in twenty years as a result of successful water pollution abatement programs with Denison Mines and Rio Algom Limited
 - . The Whitson River Assimilation Capacity Study was initiated by M.O.E. through a consultant, to effect phosphorus removal requirements at sewage treatment plants in Chelmsford and Azilda
- . The first close out of a uranium mine in Ontario was accomplished at Agnew Lake Mines by a co-ordinated Provincial response (Ministries of the Environment, Natural Resources, and Labour) to AECB's proposed close-out approval. The close-out licence requires a five-year monitoring and assessment program before the Company will be given a final release
 - . A Certificate of Approval was issued to Falconbridge Limited for diversion of nickel-contaminated Strathcona Creek through mill process to Moose Lake for treatment to correct pH and precipitate metals and requires an 80% loading reduction over 5 years at a capital cost of \$500,000
 - . Certificates of Approval were issued for major modifications and treatment works at the E.B. Eddy Mill at Espanola to reduce emissions to air and water. Total modernization costs are approximately \$250 million
 - . At Algoma Ore Division, Wawa, through an active abatement program, including the development of an emission curtailment system and the laying of several charges, sulphur dioxide fumigations have been reduced from a level of 33 in five months of 1981 to three in 1982, with none occurring since May 1, 1982

1981-82

1982-83

3.0 Abatement West
(cont'd)

- . A major study of an arsenic problem in groundwater in Chelmsford was identified. A Ministry report was published leading to a PSFP grant to assist in correcting the problem. Research into arsenic removal facilities was carried out
- . The Ministry funded the upgrading of individual wells for 24 homes under the LCA project at a cost of \$140,000, for the community of Missanabie
- . At the Algoma Steel Corporation Limited in Sault Ste. Marie, the installation and successful operation of new sinter plant and #1 BOF air pollution control facilities, removed over 18 tons of particulates per day at a cost of \$6 million. A major thrust was undertaken to upgrade the existing disposal operation conducted by a private contracting firm and to ensure that a long term waste disposal site is available to meet the needs of the City of Sault Ste. Marie. A number of operational improvements are to be undertaken by the contractor including the implementation of a leachate control system
- . Modifications to boilers and operating procedures at Weyerhaeuser (Canada) Limited at Sault Ste. Marie have resolved wood char emission problems associated with this facility, resulting in reductions in dustfall by approximately 50 percent, to levels which now comply with Provincial dustfall criteria
- . The Frances H. Clergue Hydroelectric Generating Station at Great Lakes Power, Sault Ste. Marie, was brought on-stream without any significant environmental impact on the St. Marys Rapids fishery, the City of Sault Ste. Marie's drinking water supply, or transboundary movement of pollutants from Algoma Steel, at a project cost of \$115 million
- . A clarifier and diffuser system was installed at the Abitibi-Price Inc., pulp and paper mill at Sault Ste. Marie reducing suspended solids in the effluent from 12.0 to 6.0 tonnes per day, at a approximate cost of \$2.0 million
- . The City of Sault Ste. Marie submitted documents under the Environmental Assessment Act for a landfill site in compliance with the Minister's Report issued in 1982. It is anticipated that the facility will be reviewed under the Consolidated Hearings Act

1981-82

1982-83

3.0 Abatement West
(cont'd)

- . Agreement was reached on a \$69,000,000 municipal infrastructure program for the City of Sault Ste. Marie to include the construction of sewage treatment and water treatment plants and associated works. The Provincial share of the cost is \$24.5 million with M.O.E. funding estimated at \$10.5 million
- . The Low Cost Alternative Program approved in 1980 for the Township of MacDonald, Meredith, Aberdeen Add's was completed successfully with the upgrading of approximately 100 wells and 70 sewage systems at a cost of \$750,000 to the Ministry
- . Low Cost Alternative Programs were approved for the townships of Aweres and Johnson for the upgrading of water well supplies and individual septic systems
- . The Ministry successfully prosecuted the Town of Thessalon for violation of Regulation 309 of the Environmental Protection Act with respect to the operation of the municipal waste disposal site. A Director's Order has been issued to ensure compliance with proper operation of the site

1981-82

1982-83

3.0 Abatement West
(cont'd)

- . The Township of North Shore Communal Sewage Project has been submitted to the OMB for approval. The project which is estimated at a cost of \$2.5 million will be subsidized by the Ministry to a level of 75 percent

- . Under the Waste Management Improvement Contract Program, the Ministry is conducting a study of the Township of the North Shore to determine the feasibility of municipal garbage landfilling of an inactive mine tailings area. The preliminary report prepared by a consultant has demonstrated that the project may be feasible and may result in a pilot test program

D. EXPECTED ACHIEVEMENTS

1983-84

Central Region

1.0 Director's Office and Administration

- . Leadership and management of Regional activities.
- . Maintenance of records management.

2.0 Industrial Abatement

- . Stock yards, Packing houses and rendering operations - Odour and abatement control in Keele/St. Clair area.
- . Surveys and rehabilitation of Waste Disposal Sites. PCB inventory and inspection program.
- . Surveillance of abandoned and operating gravel pits for illegal waste dumping. surveillance of pesticide, blending, packaging and storage facilities.
- . Northern Castings - completion of emission control.
- . Ford - waste sludge solidification.
- . Raybestos Manhattan - continued surveillance of records, equipment and monitoring, no exceedances expected.
- . Union Carbide- recycling to be accelerated, reduction of storage to 1 lagoon; elimination of seepage.

1983-84

2.0 Industrial Abatement
(cont'd)

- . ENL - active involvement with community groups and surveillance of plant expansion.
- . Kellogg Salada - new centrifuge and waste water treatment improvement.
- . CPW - continued vigilance and monitoring of facilities and records.
- . F.W. Fearman - Modification of system for odour control.
- . Anachemia - control equipment for sludge incinerator.
- . IKO - more effective control of odours
- . Shell - decommissioning of refinery facilities
- . Cheltenham Brick - approval and start-up of new brick manufacturing facility

1983-84

3.0 Municipal and Private
Abatement

- a. Waste Sites
 - . Special programs are being implemented at Pauze Site, Township of Tiny and at Hale Site, Town of New Castle.
 - . Efforts directed at developing sites for Northumberland County.

- b. Sewage Works
 - . Further improvement in Municipal STD plants meeting Ministry criteria.

- c. Water Supplies
 - . Gravenhurst and Hastings plants to commence operation.
 - . Planning for treatment and distribution system for Bala in Township of Muskoka Lakes.

- d. Private Systems
Development
 - . Consideration will be given to a communal system for the Hamlet of Newtonville.

- e. Sewage System
 - . Part VII workload is expected to continue.

1983-84

West-Central Region

1.0 Director's Office and Administration

- . Full implementation of the new A.E.S. word processing system is planned. Inventory control, finance management and water taking permit records maintenance are some of the areas selected for systems applications.
- . A Computer Technician will be recruited to oversee the operation of the Data Point and Digital Computers and provide local programming services. Full Regional participation is planned for such compulsory Ministry computer programs as IMIS, LIS, SIS, AQUIS and TUMMIS.
- . major equipment changes are planned at Breslube Industries, Breslau to improve control of odour emission.
- . Rothsay Concentrates Co., Moorefield intend to install additional scrubbers and a process to dry waste water sludge.

2.0 Industrial Abatement

- . Ontario Hydro, Nanticoke is planning installation of low NOx burners on two units and opacity meters on six units at a total cost of 3.8 million.
- . Steetley Industries, Dundas plan further improvements to dust control systems at a cost of \$180,000.
- . Stelco, Hamilton plan various projects costing \$8 million to further reduce air and water discharges.
- . Dofasco, Hamilton also plan projects in both air and water control at a cost in the order of \$2 million.
- . General Motors, St. Catharines expect to spend \$1 million on waste water treatment.
- . a number of companies including the abrasive industries are investigating control systems.

1983-84

3.0 Municipal and Private
Abatement

Water Works

- . steps to be taken to improve water quality in 3 municipal plants.
- . anticipate installation of municipal water works in Lynden under the low cost alternative program.

Sewage Works

- . upgrading of two municipal plants expected.
- . Lynden and Sheffield low cost alternative studies should be finalized.
- . anticipate conversion of Waterford lagoons to seasonal discharge.

Waste Management

- . improvements to existing landfill sites will continue.

1983-84

Southwestern Region

1.0 Director's Office and Administration

- . Continued development of expertise by the Regional Systems Co-ordinators and technicians in the use of Regional computer.
- . Acquisition of additional processors and graphics capability in order to facilitate the development of computing requirements at Regional level.
- . Estimated cost -

Network and 2 processors	\$ 13,000
graphics	10,000
software	1,000
	\$ 24,000.

2.0 Industrial Abatement

a. Oil Field Brine Disposal

- . implementation of study recommendations will be achieved with Region resources with support from Petroleum Resources section of M.N.R.
- . implementation will result in staged reduction of brine discharges to water-courses.

b. St. Clair River Study

- . based on earlier effluent monitoring for specific organic compounds and on more recent work completed jointly by EPS/MOE, effluent monitoring programs for industries on the St. Clair River will be developed in consultation with industry and implemented.

c. Industry Inventory

- . inventory of all industrial sources in the Region is near completion.
- . based on a prioritization of listed sources, efforts are scheduled to obtain information on potential environmental impacts of sources not yet investigated.

1983-84

3.0 Municipal and Private
Abatement

- . Establish operating and management plans for 20 sites throughout the Region.
- . Monitoring of water supplies to ensure meeting of all new criteria, and implementing corrective measures where necessary.

1983-84

Southeastern Region

1.0 Director's Office and Administration

- . Plan, direct and co-ordinate the enforcement of regulations, control of emissions and the delivery of programs in accordance with Ministry policies.
- . Monitor resource allocation and delivery of services in accordance with the multi-year plan and make any necessary adjustments.
- . Provide support services for Regional and District staff and plant operations in the areas of personnel, finance, supply and general administration.
- . Provide a comprehensive Health and Safety program for the Regional staff and plant operations in the areas of safety audits, training and accident prevention.

2.0 Industrial Abatement

- . Pentachlorophenol abatement at Domtar Wood Preserving. Trenton is scheduled for completion.
- . Reduction of lead emissions at DuPont's Maitland plant to meet Federal Regulations is being investigated.
- . Arctic Gardens (Doseronto) will be issued a Requirement and Direction in order to reduce organic loadings into the Bay of Quinte.
- . A plan for reduction of contaminants from Baxter Canning (Bloomfield) into the Bay of Quinte is anticipated.

1983-84

3.0 Municipal and Private
Abatement

- . Embrun: Sewage works to be constructed (\$4.5M).
- . Perth: Improvements to sewage works to eliminate overflow to Tay River (\$0.5M).
- . Arnprior: Sewer separation program expected to start (\$1.2M).
- . Williamsburgh: Sewage works to be constructed (\$900,000).
- . Carelton Place: Water treatment facility to be constructed (\$3.8M).
- . Cornwall: New waste disposal site operational.
- . Sheffield Township: Old waste disposal site closed, new site opened.
- . Hawkesbury Area: 5 municipalities involved in area waste management study (\$15,000)
- . Waste Disposal Sites: Anticipated closures 4
- . Pesticides: Anticipated examinations 180
Aerial Spraying Permits 20
Applications to Water Permits 110
Structural Permits 50
Land Permits 10
- . Complaints: Anticipated 950 (950 m-d)
- . Communal Sewage Works Inspections: 65 (110 m-d)

1983-84

Northwestern Region

1.0 Director's Office and Administration

- . Plan, direct and coordinate the enforcement of regulations, control of emissions and the delivery of programs in accordance with Ministry policies.
- . Review Regional organization with reference to the Ministry's "Meeting the Environmental Challenges of the 1980's".
- . Develop staff capabilities including the training of the new Industrial Manager and Assistant Director appointed as a career development.
- . Monitor resource allocation and delivery of services in accordance with the multi-year plan and make adjustments as necessary.
- . Improve liaison and support services for municipalities in the operation and development of Utility plants.
- . Monitor resource allocation and delivery of services in accordance with multi-year plan and make adjustments as necessary.
- . Provide support services for Regional Staff and plant operations in the areas of finance, personnel and general administration.
- . Provide comprehensive safety audit reports on 30 utility projects.

2.0 Industrial Abatement

- . Issue Control Orders to three pulp mills and two gold mines.
- . Operate I.M.I.S. on a full-time basis.
- . Complete communications network for contingencies.
- . Install and provide training for intelligent computer terminal in Kenora District Office.

2.0 Industrial Abatement
(cont'd)

- . Continue toxicity and hazardous contaminants studies of all pulp and paper mills and major mines.
- . Coordinate and review all environmental approvals necessary for proposed new gold mines at Hemlo (Marathon).
- . Ensure that all pulp and paper companies presently under Control Orders meet all the necessary requirements. Prosecute when necessary.
- . Provide monitoring and audit sampling of industrial clients.
- . Audit all management plans of industrial waste disposal sites.

3.0 Municipal and Private
Abatement

- . Inspect all communal and water sewage works systems.
- . Inspect and report on all waste disposal sites.
- . Conduct water pollution surveys and water quality surveys in Heron Bay, Geraldton, Armstrong and Thunder Bay (South Ward).
- . Monitor waste disposal sites in Paipoonge, Thunder Bay, Nipigon, Dryden and Balmertown for leachate migration.
- . Complete a waste disposal audit on all sites in the Region with the provincial Special Investigations team from Head Office.
- . Complete approximately 200 cottage inspections at lakes in the Atikokan area.

1983-84

3.0 Municipal and Private
Abatement (cont'd)

- . Computerize all water and sewage sample results from treatment plants.
- . Meet with municipal representatives to standardize all municipal sewage works reporting systems.
- . Complete studies to assess proposed impact of mining activities in the Hemlo mining area, i.e. : Marathon, Manitouwadge and Heron Bay.
- . Continue to administer the Pesticides Licencing program for herbicide use in Utility corridors.
- . Continue to develop water projects at Johnson's Landing, Hudson, Armstrong, Madsen, McMarmac, Cochenour, Jaffrey and Melick, Fort Frances and Emo.
- . Issue Pesticides Use Permits for conifer release spraying, site preparation and right-of-way spraying in accordance with herbicide use under Forest Management Agreements.
- . Continue with training program for structural extermination licences for insecticide use in grain elevators.
- . Random inspections of pesticide storage premises and on site spray operations.

Northeastern Region

1.0 Director's Office and
Administration

- . Provide upgrading of the Regional Word Processing dictation system.
- . Co-ordinate audiometric testing for all employees in the Northeastern Region.
- . Review communication needs with the view to purchasing and installing mobile 2-way radios in Regional vehicles.
- . Completed fixed assets inventory update.
- . Distributed Data Processing System to be brought into operation with components in Sudbury, Sault Ste. Marie, Timmins and North Bay and staff to be trained. Estimated time saving to be realized is 3 1/4 man years/year.

2.0 Abatement East

- . The Ontario Northland Transportation Commission at North bay will add a number of facilities to complement existing oil separator works to prevent periodic overflows of oily water to Lake Nipissing.
- . MacMillan Bloedel Limited at Sturgeon Falls will design and construct an anerobic treatment system for the removal of biochemical oxygen demanding substance (BOD) from mill waste water discharges to the Sturgeon River. The system should reduce BOD loadings to the river from a present 60 tonnes per day to 15 tonnes per day. This will be the first installation of its kind in Canada treating pulp and paper wastewaters.

1983-84

3.0 Municipal and Private
Abatement (cont'd)

- . Communal Water Works
Inspections: 105 (200 m-d)

- . Communal Waste Disposal Site
Inspections: 245 (245 m-d)

- . Private Sewage
Anticipated Applications 1350
Anticipated number of severences 750
Anticipated number of subdivisions 20
Manpower requirements 1000 m-d

2.0 Abatement East
(cont'd)

- . The Cobalt Marsh experimental facility utilizing cattails as a means of sewage treatment will conclude. There may be merit in using this inexpensive treatment method for Cobalt but a decision to continue with further experimentation or actual implementation of this treatment process will be made after submission of the final report. The project is being jointly funded with the Ministry of Northern Affairs.

3.0 Abatement West

- . As a result of the Requirement and Direction to Rio Algom on December 7, 1976, research was undertaken into a new system for removing radium from uranium mining effluents. The dual media filtration system which came out of this work at CCIW is considered the state-of-the-art and will be employed with the start-up of the new Stanleigh operations in July of 1983. This will be the first full-scale treatment facility in the world employing this concept for the treatment of uranium mining wastes. Radium concentrations in the effluent are expected to be well below drinking water objectives.
- . Eldorado's new uranium refinery at Blind River will be brought on-stream in July of 1983. All facilities will be MOE approved and a satisfactory air and water pollution monitoring program will be in place. Major water and sewage works upgrading is proposed for the Town of Blind River at an estimated cost of \$5,000,000. The multi-year plan will be considered for 15 percent funding under the MOE Up-Front Grant program.
- . An air study for Falconbridge Limited will be undertaken to determine the feasibility of supplementary control of ground-level concentrations of SO₂. Involved is an intensive 2 month study by Air Resources Branch and the Northeastern Region.
- . An Amending Control Order for operation of a supplementary control system will be issued to Inco Limited in April 1983. This Control Order will require validation of the existing Inco model and evaluation of other models for convective conditions.

1983-84

2.0 Industrial Abatement
(cont'd)

- . A project will be continued in the community of White River to install municipal water distribution and sewage collection systems. The project cost is estimated to be two million dollars and will be funded by MNA and MOE under the Up-Front Grant scheme at 75%.
- . A project will be implemented for the community of Dubreuilville to install municipal water and sewage systems. The estimated cost of the works of \$1.0m and will be funded to a level of 75% by this Ministry.
- . Environmental Assessment and Public Hearings on the application by the City of Sault Ste. Marie for a new municipal landfill site in accordance with the Minister's Report are anticipated. Construction is anticipated to commence on the water treatment and sewage treatment plant at a funding level of approximately \$11.0 and 14.0m respectively, under a tri-party agreement, which will result in a \$24.5m Provincial share for the project.

VOTE 2103

Item 06:

ENVIRONMENTAL APPROVALS AND TECHNICAL SUPPORT ACTIVITY

A. ACTIVITY ROLE AND OBJECTIVES:

ROLE:

- a) To develop guidelines for acceptable industrial, municipal and private disposal systems, to review and approve such systems, and review land-use programs.
- b) To administer Part VII of the Environmental Protection Act and provide technical support for the implementation of Ministry programs in the area of noise, private waste, boating and marina activities and the maintenance of plant equipment.

OBJECTIVES:

1. To review and process applications submitted by the municipal, private and industrial sectors as required by the Environmental Protection Act and the Ontario Water Resources Act.
2. To ensure that environmental safeguards are incorporated in the land use policies and programs of governments and the private sector.
3. To provide skilled technical assistance to the environmental control program activities in the Regions by monitoring ambient air and water quality and measuring the success of abatement programs.
4. To ensure that environmental safeguards are considered in the development of undertakings subject to the Environmental Assessment Act.
5. To facilitate the implementation of specialized Ministry programs including noise, private waste, boating and marina activities and the maintenance and repair of plant equipment.

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

	<u>BUDGETS</u>			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
<u>ENVIRONMENTAL APPROVALS</u>						
<u>AND ENGINEERING BRANCH</u>						
<u>SECTIONS</u>						
1.0 <u>Environmental Approvals</u>)						
<u>Section</u>)		1,528.0	1,752.1		46	46
	1,884.3			70		
2.0 <u>Special Activities and</u>)						
<u>Operations Services</u>)		699.2	956.4		22	22
3.0 <u>EPA Part VII Grants</u>	2,181.8	2,000.0	1,500.0	-	-	-
4.0 <u>Technical Support Sections</u>						
Central Region	1,413.3	1,466.0	1,621.0	33	33	34
West-Central Region	861.3	990.0	1,056.0	21	21	21
Southwestern Region	903.8	1,265.0	1,166.5	20	20	20
Southeastern Region	222.0	885.0	965.7	20	21	21
Northwestern Region	934.1	948.0	787.7	14	14	14
Northeastern Region	<u>1,031.1</u>	<u>1,166.0</u>	<u>1,131.5</u>	<u>19</u>	<u>20</u>	<u>21</u>
TOTALS	<u>10,131.7</u>	<u>10,947.2</u>	<u>10,936.9</u>	<u>197</u>	<u>197</u>	<u>199</u>

C. MAJOR ACCOMPLISHMENTS

1.0 Environmental Approvals Section

	<u>1981/82</u>	<u>1982/83</u>
a. Review and process all applications for approval received under the OWR Act submitted by the municipal, private and industrial sectors. (Potable water treatment and sewage and industrial waste treatment facilities.)	2,400	2,100
b. Review and process applications for approval of air emission control facilities under section 8, Environmental Protection Act	1,350	1,200
c. Review and process applications for approval under Part V, Environmental Protection Act for the installation and operation of waste management facilities servicing the municipal, private and industrial sectors.	1,020	425
d. Review applications and issue licenses under Part V of the Environmental Protection Act to haulers of septage and installers of septic tanks.	3,400	3,600
e. Make arrangements and prepare submissions to the Environmental Assessment Board for public hearings and the Environmental Appeal Board for appeals under the Environmental Protection Act and OWR Acts.	18	20
f. Prepare and co-ordinate Ministry position on water and sewage treatment plants and landfilling sites under the Environmental Assessment Act.	8	12
g. Assist in the development of policy and preparation of technical guidelines.	5	10

2.0 Special Activities and Operational Services

2.1 Land Use

1981-82

- . Provided municipal plan review support to MOE Region: prepared and issued five chapters to the Land Use Plan Review Handbook; conducted a two-day seminar on land use planning; performed preliminary work on policy statements to be issued under the new Planning Act; and, developed a pilot system for monitoring the municipal plan review program;
- . July 1981, assumed the co-ordination of the Ministry's technical review of environmental assessments. Co-ordinated review of eleven formal submissions; Eleven more were in pre-submission stage.
- . Twelve policy items for the Ministry's policy manual were under development of which five were completed and approved;
- . Participated in Interbranch, Interministerial and Intergovernment Committees and Task Force work on such land use related matters as: solid waste disposal, West Patricia Land Use Plan and wetlands.

1982-83

- . Provided municipal plan review support to MOE Regions: prepared and issued four chapters to the Land Use Plan Review Handbook; conducted a two-day seminar on land use planning; developed proposed policy statement under the new Planning Act on Land Use compatibility and received Ministerial approval; the data collection period for the trial monitoring system was concluded and analysis commenced.
- . Co-ordinated the Ministry's technical review of fifteen formal environmental assessments; Twenty four more were in pre-submission stage and developed EA Review Manual.
- . Eight policy matters for the Ministry's policy manual were under development of which three were completed and approved by the Policy Committee;
- . Prepared a program to guide Ministry staff during meetings and applications for waste disposal site establishment or expansions and established a team to assist Regional staff with groundwater interference problems.
- . Participated in Interbranch, Interministerial and Intergovernment Committees and Task Forces related to land use matters such as: Niagara Escarpment, Pits and Quarries, Hydrocarbon Pipelines, and Industrial Parks.

2.2 Noise

	<u>1981-82</u>	<u>192-83</u>
a. Review of interministerial standards, policy issues, guidelines.	22	9
b. Evaluation of land use proposals and review of acoustical reports	502	460
c. Review and advice on Environmental Assessments	28	17
d. Complaint investigations	63	179
e. Participation in Hearings OMB, EAB	4	2
f. Training Courses, Seminars	8 (150 participants)	8 (140 participants)
g. Summer research projects	2	3
h. Special studies and Technical assignments	1	2
i. Remodelling of electronic equipment and design of new equipment.	-	2

2.3 Private Sewage and Field Services

1981-82

- . Revised Ontario Regulation 229/74 to convert to metric and add new standards;
- . Conducted twelve seminars across the Province on the Revised Regulation;
- . Prepared and issued guideline on hauled sewage disposal.

1982-83

- . Revised and issued eleven chapters of the "Manual of Policy, Procedures and Guideline on Private Sewage Disposal Systems".
- . Prepared submissions on program delivery arrangements to replace the existing agreements with regional municipalities and Boards of Health. Distributed a green paper to the Association of Municipalities of Ontario and the Association of Ontario Boards of Health regarding proposals for delivery of private services program by municipalities.
- . Prepared amendments to legislation to conform to green paper proposals.

3.0 EPA PART VII GRANTS

1981-82

1982-83

- . Grants given to Health Units for administration of Part VII of The Environmental Protection Act.

(Approval of private sewage disposal systems).

- . Grants are awarded on the basis of workload.

Applications received for New Systems	14,256	14,000 (Est)
Number of Lots reviewed	23,099	23,000 (Est)

4.0 Technical Support

Central Region

1981-82

1982-83

Water Resources Section

Recreation Lake Surveys

- . During 1982/83, lake surveys were undertaken for Rosseau, Muskoka and Joseph Lakes in Muskoka and Chandos, Tallan and Clydesdale Lakes.
- . During 1982/83, the Lake Simcoe Monitoring and Evaluation Program continued through the collection and interpretation of physical, chemical and biological water quality data to monitor the effectiveness of phosphorous abatement program on changes in lake water quality.
- . Commenced in 1982, the survey of Sucker Creek will continue into 1983 to determine sediment deposition resulting from municipal drain maintenance work and their impact on water quality of the Scugog River.

Central Region

1981-82

1982-83

Water Resources Section

Provincial Water Quality Network

- . The program of maintaining 22 streamflow gauging stations and 27 observation wells continues. In addition, monthly water samples as collected at 207 water quality stations of the Provincial Water Quality Network in co-operation with various conservation authorities in the Region. The information is used to evaluate the effectiveness of ongoing abatement programs and signals when remedial programs are required.

Hydrogeological Program Waste Sites

- . The program of reviewing hydrogeological reports and conducting field surveys and assessments regarding the environmental impact of abandoned and active municipal and industrial landfill sites continues. Studies of sites require substantial staff resources, e.g. the York Sanitation Site No. 4, the Proposed Keele Valley site (Maple Pits), Seymour Township Site, and Regional Reclaimers Ltd. (Newcastle) site.

Central Region

1981-82

1982-83

Air Quality Assessment

- . The ambient air monitoring program was continued in 1982-83. Approximately 500 instruments monitored air quality in 25 communities throughout the region. Concentrations of standard pollutants, namely sulphur dioxide, particulate matter, carbon monoxide, oxides of nitrogen, hydrocarbon, and ozone were measured and during 1982-83, the API (Air Pollution Index) exceeded the First Alert level of 50 on two occasions and exceeded the Air Advisory Level of 32 on five occasions.

Planning and Approvals

Approvals

- . Environmental protection is achieved by means of processing and issuing approvals under Section 8 of the EPA (for the emission of contaminants to the atmosphere) and under Section 40 of the OWRA (for the regulation of water use).

Central Region

1981-82

1982-83

Planning and Approvals

Approvals

- . During 1982/83, the following approvals were issued:

Certificates of Approvals for Industrial Emissions	330
New Water Taking Permits	38
Renewals and Letters of Approval for Temporary Water Extraction	31

Environmental Planning Reviews

- . Environmental planning is brought about through input to the development review process under the Planning Act, co-ordination of environmental assessment activities for the Region, and the review of quasi-approvals.

Central Region

1981-82

1982-83

Environmental Planning Reviews

- . During 1982, the following reviews were completed:

Major Municipal Officials Plans and Secondary Plans	15
Official Plan Amendments	158
Plans of Subdivision	273
Severance of Applications (Muskoka)	50
Zoning By-Laws	66
Niagara Escarpment Commission Development Control Applications	27
Pit and Quarry Licence Applications	3
Lakefill Quality Assurance Program (Sept-March)	
Projects Investigated	15
Excavation Projects Screened	5
Environmental Assessment (EA)	
Environmental Status Report	60
Class EA	10
Individual EA	12
EA Monitoring	4
Presubmission Contacts	45
EA Liaison Meetings	12

1981-82

1982-83

West-Central Region

Air Quality
Assessment Group

- . Maintained and serviced a comprehensive air quality monitoring network throughout the Region.
 - . Prepared Annual Air Quality Report for Hamilton and reports advising of changes, trends and required actions for all monitored areas.
 - . Dealt with 8 A.P.I. occurrences, 32 with appropriate industry and media contacts.
 - . Conducted special studies
 - (a) Fort Erie - Gasoline Retail Complaints.
 - (b) Sandblasting - Burlington Skyway, Complaints.
 - (c) Inco - Port Colborne, high observed particulate fallout.
 - (d) Data acquisition during Stelco strike.
 - (e) Upper Ottawa Street Landfill Site - Hamilton.
- . Maintained and serviced 188 air quality monitoring devices at 113 locations.
 - . Prepared Annual Air Quality Report for Hamilton, reports advising of changes, trends and required actions for all monitored areas and air quality in Hamilton during Stelco strike.
 - . Dealt with 13 A.P.I. occurrences, 32 with appropriate industry and media contacts, and implemented revised cut back schedules.
 - . Conducted special studies of:
 - (a) Exolon - Thorold.
 - (b) Stelco - Nanticoke.
 - (c) Miscellaneous studies (Portable Aerovane, Chlorine Complaints, Dichotomous sampler experimentation, Columbia Carbon, Hamilton - complaints.

1981-82

1982-83

West-Central Region

Air Quality
Assessment Group

- (f) Preliminary investigation of proposed South Cayuga Disposal Site.
- . Planning and requirement evaluation of a emergency van and a survey van.

- (d) Dolime - Hamilton, loading contributions.
- (e) PCBs - Smithville.
- (f) General Abrasives - Niagara Falls.
- (g) Upper Ottawa Street Landfill Site.
- (h) Industrial contribution to general air quality in Hamilton.
- . Integration of AQUIS data and programs to the local computer.
- . Development work for building special telemetry type Coefficient of Haze instruments, equipping 2 new stations.

1981-82

1982-83

Southwestern Region

Water Resources
Unit

- . Monitoring of water quality at 135 river monitoring stations.
- . Investigations and reports on the impacts of 12 municipal and industrial discharges on river systems.
- . Direction and monitoring activities for Stratford-Avon River Environmental Management Project.
- . Improved public and OMAF recognition of agricultural land management issues and practices from Thames River Implementation Program.
- . Definition of serious water quality problem in Rondeau Bay resulting from agricultural operation.
- . Regional contribution to Listowel Marsh project.
- . Completion of aquatic fauna report for Detroit River.
- . Monitoring of water quality at 147 water quality monitoring stations.
- . Provision of investigations and reports on the impact of 10 municipal and industrial discharges on river systems.
- . Regional input into finalization of Stratford-Avon River Environmental Management Project (report pending).
- . Contribution to completed report for the three-year Thames River Implementation Program.
- . Development of final position on application of marsh treatment at Listowel (pending).
- . Direction and funding for development of Rondeau Bay Water-shed "Master Erosion Control Plan".

1981-82

1982-83

Southwestern Region

Water Resources
Unit (cont'd)

- . Completion of water quality report for the Bighead River system.
 - . Completion of report for nitrate contamination (agricultural) of wells in a sandy portion of Essex County.
 - . Completion of reviews, technical assessments and consultations for 30 landfill sites throughout the region.
- . Direction and funding for assessment of agricultural impacts in two sub-watersheds in the Maitland River basin.
 - . Completion of report on algae Cladophora conditions along Lake Huron.
 - . Follow-up measures to implement remedial land use practices in the Bighead River basin.
 - . Assessment of organic compounds at six municipal water supplies along the St. Clair - Detroit River system.
 - . Completion of hydrogeological assessments at 13 municipal landfill sites.
 - . Evaluation of nitrate contamination in groundwater supplies in Leamington, Harrow and Kingsville areas.
 - . Completion of sensitivity mapping for regional groundwater protection.

1981-82

1982-83

Southwestern Region

Air Resources
Unit

- . Maintenance of regional ambient air quality monitoring system, involving 90 station locations.
 - . Participation in Michigan-Ontario study of air pollution in the Detroit-Windsor area, with emphasis on ozone and particulates.
 - . Assessment of size distribution of particulates in the Windsor area, to better assess respiratory concerns.
 - . Preparation of ambient air quality reports for Sarnia and Windsor.
 - . Completion of report to assess effects of static loading and sampling frequency on data for suspended particulates.
 - . Establishment of a new meteorological tower in the vicinity of the Bruce Nuclear Power Development.
 - . Development of specific sampling and source identification techniques for suspended particulates in the Beachville area.
- . Maintenance of regional ambient air quality monitoring system, involving 90 station locations.
 - . Finalization of sampling and source identification for suspended particulates in the Beachville area.
 - . Completion of ambient air quality reports for Sarnia, Windsor and Michigan-Ontario Transboundary area.
 - . Provision of more effective ozone monitoring through development of maintenance manual and improved calibration procedures.
 - . Improved total suspended particulate monitoring through provision of flow controllers.
 - . Application of directional sampling equipment for hi-vol sampling at Windsor and use of sample savers to offset effects of passive loadings.

1981-82

1982-83

Southeastern Region

Air Quality
Assessment

- . Maintained two fully instruments NAPS stations in support of the Ontario Air Quality Monitoring Network.
 - . Maintained continuous monitors in Hawkesbury, Maitland and Cornwall in support of Regional abatement programs.
 - . Developed information on station automation.
 - . Provided technical input for the purpose of updating the Air Quality Monitoring Telemetry System.
- . Same as Fiscal 1981/82 plus the following:
 - . Provided major portion of the input into setting up the Regional Data Processing System.
 - . Prepared a major report on Cornwall Air Quality.

1981-82

1982-83

Southwestern Region

Approvals and
Planning

- . Provision of reviews for 138 official plans and amendments, 15 draft plans, 3 zoning orders, 12 N.E.C. permits, 96 water taking permits and 6 pipeline applications.
 - . Co-ordination and provision of regional inputs on 6 environmental assessments, 2 class environmental assessments, 5 environmental study reports and 10 exemption interpretations.
 - . Provision of reviews and comments on 11 engineering reports and 82 MNR approvals.
 - . Completion of regional workshop for municipal representatives to familiarize them with E.A. regulations.
- . Provision of reviews for 105 official plans and amendments, 15 draft plans, 14 N.E.C. permits, 85 water taking permits and 5 pipeline applications.
 - . Co-ordination and provision of regional inputs on 6 environmental assessments, 2 class environmental assessments, 10 environmental study reports and 9 exemption interpretations.
 - . Provision of reviews and comments on 17 engineering reports and 32 MNR approvals.
 - . Completion of plan review monitoring in co-operation with the Land Use Co-ordination Section.

1981-82

1982-83

Southeastern Region

Water Quality
Assessment

- . 93 Provincial Water Quality Network monitoring stations maintained.
 - . 99 Lake Self Help monitoring stations maintained.
 - . 13 observation wells maintained.
 - . 20 lake trophic status water quality evaluations completed.
 - . 19 river water quality assessments undertaken.
 - . 280 APIOS water quality assessments undertaken.
 - . 61 groundwater contamination investigations conducted.
 - . 14 groundwater interference investigations conducted.
 - . 90 landfill site investigations conducted.
 - . 53 sludge utilization site investigations conducted.
- . 93 Provincial Water Quality Monitoring Network Stations maintained.
 - . 92 Lake Self Help Monitoring Stations maintained.
 - . 13 observation wells maintained.
 - . 23 Lake Trophic Status Water Quality Evaluations completed.
 - . 22 River Water Quality Assessments undertaken.
 - . 6 APIOS Trend Through Time Lakes sampled.
 - . 9 APIOS Water Quality Inventory Lakes sampled.
 - . 48 groundwater contamination investigations conducted.
 - . 12 groundwater interference investigations undertaken.
 - . 24 landfill site investigations undertaken.

1981-82

1982-83

Southeastern Region

Water Quality
Assessment (cont'd)

- | | |
|--|--|
| <ul style="list-style-type: none">. 4 septic tank holding lagoon sites inspected.. 91 marine construction (dredging/filling) inspections conducted.. 12 pit and quarry licenced site inspections conducted.. 325 planning and approvals documents commented on. | <ul style="list-style-type: none">. 50 sludge utilization site investigations completed.. 8 septic tank holding lagoon sites inspected.. 81 marine construction (dredging/filling) inspections completed.. 12 aquatic nuisance complaints investigated.. 1 surface water interference complaint investigated.. 13 pit and quarry licence site investigations completed.. 247 planning and approval documents commented on. |
|--|--|

1981-82

1982-83

Southeastern Region

Approvals and
Planning

- . 123 Official Plans and Amendments reviewed.
- . 639 zoning bylaws and amendments reviewed.
- . 107 subdivision proposals reviewed.
- . 29 miscellaneous planning policy documents reviewed.
- . 283 Applications for Approval under MOE legislation reviewed.
- . 263 Applications for quasi approval reviewed.
- . 88 Environmental Assessment Review documents reviewed.
- . Testimony given at several Ontario Municipal Board Hearings on subdivision development.
- . Assistance given to the Ontario Energy Board.
- . Monitoring of a number of MTC projects under the EA Act undertaken.
- . 95 Official Plans and Amendments reviewed.
- . 545 zoning bylaws reviewed.
- . 78 subdivision proposals reviewed.
- . 45 miscellaneous planning policy documents reviewed.
- . 251 applications for approval under MOE legislation reviewed.
- . 179 quasi approval applications reviewed.
- . 95 environmental assessment documents reviewed.
- . Input provided to a number of Planning Boards on development of Official Plans.
- . Input to the Ontario Hydro Route Stage EA and the Highway 16 corridor EA provided through membership on Committees.
- . Field environmental monitoring of a number of EA projects undertaken.

1981-83

Northwestern Region

Air Quality Assessment
Unit

- . Continued an air quality monitoring and phytotoxicology program in support of industrial abatement activities in the pulp and paper, mining, and grain elevator industries.
- . Expanded the air quality network to Marathon to provide complete coverage of kraft pulp mills in the Region.
- . Participated in the development of an air quality index (AQI) and telemetry system for the Province.
- . Continued the pre-operational monitoring program near Ontario Hydro's thermal generating station at Atikokan.
- . Published an annual Regional air quality report for 1981, as well as other reports on special surveys.
- . Managed the development of the A.P.I.O.S. terrestrial effects program contracted to Lakehead University, and provided Regional support to the deposition monitoring program conducted by Air Resources Branch in northwestern Ontario and northern Minnesota.

1981-83

Northwestern Region

Water Resources Assessment
Unit

- . The Unit successfully operated a 58-station surface water quality monitoring program on lakes and rivers of the Region.

- . Ten pre-operational or post-operational surface water quality surveys were conducted in relation to mining activities. Five surface water studies were completed to assess the environmental effects of pulp and paper activities. Additional water quality studies were conducted to assess drinking water supplies and the impact of recreational development on lake shores.

- . A number of groundwater investigations were made on industrial and municipal waste disposal sites; complaints from the public over groundwater contamination and interference were investigated.

- . The Unit assisted in providing capability for an extensive toxicity testing program of industrial effluents in the Region.

- . Through Lakehead University, the Region made a significant contribution to the Acid Precipitation in Ontario Study and is progressing with the preparation of reports detailing the relative sensitivity of Regional lakes and streams to the effects of acidic precipitation.

1981-83

Northwestern Region

Approvals and Planning Unit

- . The Unit provided a coordinated response on subdivisions, official plans and official plan amendments to the Ministry of Municipal Affairs and Housing.
- . Participated as part of a team on the Little Jackfish River environmental assessment on proposed hydro-electric development.
- . Reviewed the Thunder Bay Community Auditorium environmental assessment and represented the Ministry before the Environmental Assessment Hearing Board.
- . Conducted a special monitoring project of recreational subdivisions approved on Lake of the Woods in the past eight years. Recommended modifications of the Ministry's evaluation process for water access subdivisions.
- . Reviewed in detail the Thunder Bay Official Plan. A draft report was prepared on procedures for evaluating the ability of development areas to support individual water supplies.

1981-83

Northwestern Region

Regional Laboratory

- . Introduced Standard Plate Count as additional monitoring capability for municipal drinking water supplies.
- . New methodologies were established for enumeration of E. coli and for detection of toxigenic Aeromonas.
- . Analytical methodologies were established for low level aqueous total mercury and aqueous methyl mercury analysis.
- . Introduced an automated absorption analytical procedure for analysis of calcium and magnesium in aqueous samples.
- . Organized and coordinated Open House at Regional Laboratory to commemorate the tenth anniversary of this Ministry.
- . Performed chemical and microbiological analysis in support of Regional monitoring and abatement programs including two intensive surveys for the Wabigoon River study. The overall test loading for the 1982-83 fiscal period increased by approximately seven percent over the level for the previous fiscal year.

1981-82

Northeastern Region

- . A predictive model of the impact of log driving/storage on the dissolved oxygen regime of the Upper Kapuskasing River was prepared and validated.
- . A biological survey of the Kapuskasing River was completed and will be used as a yardstick to measure improvements expected from implementation of Control Order requirements.
- . A field survey of the Elliot Lake area was conducted to measure the relative impact of nitrate as a eutrophication agent, to comply with an Environmental Assessment Board recommendation. The mixing zone in Upper Serpent River was defined and the toxicity of uranium milling water to fish was investigated. A water quality data report was also issued in compliance with the Environmental Assessment Board and hydrological model of Serpent River was prepared as part of an investigation into Deep Lake Disposal.
- . Evaluation of 80 lakes were completed to measure the effect of cottaging activity.
- . Designation of buffer zones for existing Crown Land landfills were made. Surveys of 6 major landfills were completed.

1982-83

- . A Waste Water Assimilation Model of the Mattagami river downstream of the Abitibi-Price, Smooth Rock Falls mill was prepared. As well, the toxicity of the water to fish was evaluated.
- . A low-flow augmentation program was initiated on the Spanish River to investigate available water, in response to a major fish kill from the wastes from E.B. Eddy.
- . An evaluation of nitrate data was made and draft report on the impact of nitrates in the Serpent River was prepared. A socio-economic analyses of Deep Lake Disposal (privatized) was conducted, is part of the Serpent river study.
- . An evaluation of the efficiency of Falconbridge's Moose Lake Treatment system was made as foundation of a new Control Order issued to that company.

1981-82

Northeastern Region

- . Inspection of 1143 wells was completed.
- . Vegetation and soil samples from 92 sites in the Sudbury area were collected and processed to determine what changes in vegetation and soil had occurred since 1971.
- . Maintained, sprayed (anti-oxidant) and evaluated about 5,500 seedling trees at 16 plot locations across the Northeastern Region, to evaluate the effect of the long range transport of pollutants (namely ozone) on tree growth.
- . Evaluated the conditions of 32 white pine tree plots across the Northeastern Region to assess the effect of ozone on tree conditions and operated a network of 22 potato plots as indicators of phytotoxic concentrations of ambient concentrations of ozone.
- . Developed a mini-nursery to retain stock for restocking, plots for maintaining plant material for experimental or bioassay-type studies.
- . Evaluated and measured tree growth at 11 birch plots at Wawa and 12 aspen plots at Timmins to determine the effect of the emissions from Algoma Ore Division in Wawa and Kidd Creek Mines in Timmins.

1982-83

- . Evaluations of 110 lakes were completed to measure the effects of cottaging activity and to predict impact of cottaging proposals. A major report on Lake Nosbonsing Trophic Status was issued.
- . Hydrogeology aspects of tailing area expansions in the Elliot Lake uranium camp were reviewed. Inspection of 875 wells was completed.
- . Conducted a detailed vegetation and soil sampling program in the vicinity of Kidd Creek Mines at Timmins to determine the extent of environmental contamination from the new copper smelter complex and mapped the extent of SO₂ injury to vegetation.
- . Collected soil and vegetation samples as pre-operational surveys in the vicinity of Eldorado Nuclear Limited at Blind River and at the site of the future phosphate mine in Cargill Township near Kapuskasing.

1981-82

Northeastern Region

- . Conducted routine sampling programs at a number of locations in the Region and investigated and reported on 118 complaints (injury to vegetation) as prescribed under the E.P.A.
- . Maintained and operated an air quality monitoring program in the Elliot Lake area to determine the impact of mining activities on the populated areas.
- . Maintained and operated approximately 140 air quality monitors in the Region, including a real-time data telemetry SO₂ network in the Sudbury area.
- . Conducted a mobile SO₂ monitoring survey in Sudbury for Control Order compliance, this activity resulted in taking legal action against Inco Limited for an SO₂ fumigation caused by the Iron Ore Recovery Plant.
- . Conducted special air quality surveys at Timmins, adjacent to Kidd Creek Mines and at Virginiatown, adjacent to Kerr Addison Mines.

1982-83

- . Collected samples of tailings material at the abandoned mining operation at Kamiskotia to determine lime and fertilizer requirements for the establishment of vegetation cover on the tailing piles, as part of reclamation measures under consideration for this site.
- . Supervised 3 APIOS contracts to have soil baseline, tree seedling plots and biogeochemical studies carried out in the Region.
- . Actively participate in the Vegetation Enhancement Technical Advisory Committee (VETAC) land reclamation program in the Sudbury area (tree planting, grassing, etc), providing technical expertise and direction to the program.
- . Collected and processed bark samples from several tree species in the Virginiatown, Sudbury and Wawa areas to evaluate this method as a tool for monitoring air contamination.

1981-82

1982-83

Northeastern Region

- . Conducted regular sampling programs of vegetation and soil in the Wawa, Timmins, and North bay areas, and investigated and reported on 38 complaints received from contaminant injury to vegetation as prescribed under the Environmental Protection Act.
- . Continued the maintenance and operation of air quality monitoring program in the Elliot Lake area to assess the impact of the uranium mining and milling activities on populated areas. Meteorological monitoring capabilities were added to the program.
- . Maintained and operated approximately 150 air quality monitors across the Northeastern Region.
- . Conducted special air quality surveys in Kapuskasing, Espanola, Wawa and Smooth Rock Falls.

D. EXPECTED ACHIEVEMENTS:

1983-84

1.0 Environmental Approvals

- . Review and process all applications as required by the O.W.R. Act for potable water and domestic and industrial treatment systems. 2400
- . Review and process all applications for air emission control facilities. 1250
- . Review and process all application for approval under Part V, Environmental Protection Act for installation of waste management systems. 500 (900 re-issues and 100 new)
- . Review applications and issue licences to haulers of septage and installers of septic tanks. 3800
- . Prepare MOE position and participate at hearing before the Environmental Assessment Board, Environmental Appeal Board and Joint Board under the Consolidated Hearing Act. 25
- . Prepare and co-ordinate Ministry position on water and sewage treatment works and landfill sites under the Environmental Assessment Act. 12
- . Assist in the development of policy and technical guideline. 10

2.0 Special Activities and Operational Services

1983-84

2.1 Land Use

- . Issue five additional chapters to the Land Use Plan Review Handbook; and hold a two-day seminar for regional plan review staff.
- . Co-ordinate the Ministry's review of an expected forty environmental assessments.
- . Develop and conclude the work on six Ministry policies related to land use planning and seek implementation of Provincial Policy Statement under the new Planning Act.
- . Conclude the trial monitoring program.
- . Complete and publish four items in the municipal Environmental Planning Series for Municipalities.

2.2 Noise

- . Provide input to the policy and guideline development function with regard to application and enforcement and associated research work.
- . Evaluate approximately 500 land use proposals at request of MOE regional operations.
- . Review and advise on environmental assessments.
- . Provide technical expertise to the MOE Regional Offices in the investigation of noise and vibration complaints and in the enforcement of the legislation and provide central Ministry instrument lab.
- . Provide assistance to Ministry training activities.

1983-84

2.2 Noise (cont'd)

- . Continue delegation of noise planning and control functions to regional municipalities.

2.3 Private Sewage/Field Services

- . Prepare report on program delivery for consideration by Minister.
- . Prepare legislative amendments to implement revised approach on program delivery to be effective January 1, 1984.
- . Revise and issue six chapters of the Manual of Policy Procedures and Guidelines on Private Sewage Disposal Systems.
- . Commence preparation of abbreviated Guidelines or information sheets for instruction to public and contractors.
- . Revise grants and fees for 1983-84.

3.0 EPA PART VII GRANTS

1983-84

Applications received for new systems

14,000 (Est)

Lots reviewed

23,000 (Est)

. Areas for which MOE
administers Program:

North Bay

Lambton

Muskoka-Parry Sound

Ottawa - Carlton

Hastings - Prince Edward

1983-84

4.0 Technical Support

Central Region

Water Resources Section

- . For 1983/84 it is planned to continue the recreational lake evaluation program of all major lakes in Victoria Country, Rice Lake in Northumberland-Peterborough Counties, 15 lakes in Cardiff Township and 25 trout lakes in Dysart et al in Haliburton County. In addition, a triennial sampling program has been arranged jointly with the District of Muskoka for the lakes in Muskoka.

Lake Simcoe Program

- . In 1983/84, the Lake Simcoe Monitoring and Evaluation Program will be continued. The information collected from the 1982 work will be reported to area municipalities at a public meeting. The program to reduce the phosphorus loading is continuing with expected elimination of input from sewage plants at Aurora and Newmarket late in 1984.

West Central Region

Air Quality Assessment Unit

- . Maintaining and servicing all air quality monitors at their present locations and constantly reviewing them for their potential need.
- . Preparation of the Annual Air Quality Report for Hamilton and reports advising of changes, trends and required actions for all monitored locations.
- . Deal with A.P.I. 32 occurrences as they occur.
- . Conduct Special Studies as required.

1983-84

West Central Region

- . Continue participation on various committees (N.E.M.P., Atmospheric Processes Working Group, Hazardous Contaminants Inventory Committee, etc.).
- . Organize and effect the installation of two new air monitoring stations at Exolon - Thorold and General Abrasives - Niagara Falls.
- . Commence construction of 20 Coefficient of Haze - self zeroing telemetry type instruments.
- . Organize and effect the installation of seven Coefficient of Haze instrument shelters.
- . Organize and effect the installation and testing of two new fluoride analyzers.
- . Organize and effect the installation of six new air monitoring instruments (3 SO₂'s and 2 TRS's).
- . Arrange a special survey in the vicinity of the Norton plant to check effects of a new taller stack.
- . Preparation for assuming responsibility for the Nanticoke monitoring network.
- . Preparation for the installation of a new telemetry network.
- . Arrange for the testing and evaluation of two Dischotomous Particulate samplers.
- . Arrange for the installation and testing of Permeation Tubes at monitoring stations for calibration purposes.

1983-84

West Central Region

Surface Water Group

Hamilton Harbour

- . Determine relative significance of all loadings, their impact on the Harbour and potential for reduction of various sources.

Windermere Basin

- . Carry out further studies on sediment/water quality interactions.

Nanticoke (NEC)

- . Fieldwork and benthic identifications plus data evaluation and preparation of report on findings. Data evaluation and preparation of updated report.

Credit River

- . Continue monitoring river, Review reports, finalize report.

Aberfoyle Creek
(Aberfoyle Fisheries)

- . Some fieldwork; data evaluation and report preparation.

Canagagigue Creek/Uniroyal

- . Continued monitoring, possible updated report.

Niagara River

- . Maintained liaison re field studies; provided technical assistance to Niagara River team' attended meetings as required' maintained WTP monitoring program, reviewed hydrogeologic reports plus carry out benthic identification study in concert with WRB.

1983-84

West Central Region

Surface Water Group

CRIC

- . Finish all reports on small municipalities. Select new river monitoring equipment.

OWMC - Waste Treatment & Disposal Site

Ground Water Group

- . Site for project may be located in West Central Region; review of reports and field verification will be necessary.

Puslinch Township
Aberfoyle Fisheries
Capital Paving
Water Level Interference

- . Determine effects of the major municipal and industrial pumping on water level.

Uniroyal/Elmira Woolwich Township

- . Monitoring water level to assure containment is working. Assure quality of discharge water.

Wainfleet Township
R. E. Law Quarry

- . Maintain water level monitoring program. Interference of quarry deferred.

1983-84

West Central Region

Ground Water Group
(cont'd)

Flamborough (West)
Stetley Industries Quarry

- . Anticipate a large number of problem of well interference as a new dewatering centre has been established.

Flamborough (West)
Stetley Industries
Industrial Landfill

- . Upgrade monitoring and assure that no off-site migration of leachate occurs.

Town of Dunnville
Dunnville, Rock Products

- . Repairing report to outline effects of dewatering and seasonal water level variations.

Town of Lincoln
Sann Road

- . If legal action is initiated, MOE staff may be required to testify.

Industrial & Municipal
Landfill Sites

- . Continue work on sites which appear to warrant it.

1983-84

Southwestern Region

Water Resources Unit

- . Monitoring of water quality at 140 river monitoring stations.
- . Investigation of the impacts of 11 municipal and industrial discharges on river systems.
- . Investigations at Rondeau Bay to determine requirements for rehabilitation of water quality and fishery resources.
- . Evaluation of impacts of agricultural wastes on selected portions of the Thames and Ausable-Bayfield River systems.
- . Investigation of sediment quality and aquatic fauna production in Lake St. Clair.
- . Hydrogeological evaluations of 23 landfill sites throughout the Region.
- . Radiological monitoring at selected municipal wells in Grey and Bruce Counties.
- . Completion of additional groundwater sensitivity mapping.
- . Assessment of the potential impact of two waste disposal sites on water quality in the Great Lakes.

1983-84

Southwestern Region

Air Resources Unit

- . Continuation of regional ambient air quality monitoring at 90 station locations.
- . Completion of report for source identification for suspended particulates in the Beachville area.
- . Preliminary work leading to aerial plume tracing for ozone in the Sarnia trans-boundary area.
- . Assessment of U.S. vs. Canadian sources of suspended particulates at Windsor using recently developed directional sampling equipment.
- . Preliminary testing of organic vapour sampling pumps and tubes in the Sarnia area.
- . Monitoring of total reduced sulphur in gas well production areas such as Rodney.

Approvals and Planning
Unit

- . Meeting the review and input requirements associated with the plan review, environmental assessment and quasi-approval processes.
- . Co-operation with the Land Use Co-ordination Section in monitoring compliance with and effectiveness of E.A. requirements.
- . Case studies of land use compatibility issues to substantiate need for land use controls.

1983-84

Southeastern Region

Water Resources

- . 93 Provincial Water Quality Network Stations maintained.
- . 90 Self Help Lake Sampling Stations maintained.
- . 13 observation wells maintained.
- . 20 Lake Trophic Status Water Quality Evaluations.
- . 20 River Water Quality Assessments.
- . 50 APIOS Trend Through Time Lakes sampled.
- . 150 APIOS Acid Sensitivity Lakes samples.
- . 50 groundwater contamination investigations.
- . 15 groundwater interference investigations.
- . 25 landfill site investigations.
- . 50 sludge utilization site investigations.
- . 10 septic tank holding lagoon investigations.
- . 15 pit and quarry licence site investigations.
- . 80 marine construction investigations.
- . 15 aquatic nuisance complaint investigations.

1983-84

Southeastern Region

Water Resources
(cont'd)

- . 5 surface water interference complaint investigations.
- . 250 planning and approval documents to be reviewed.

Planning & Approvals

- . 100 Official Plan and Official Plan Amendments to be reviewed.
- . 550 Zoning Bylaw proposals to be reviewed.
- . 80 Subdivision proposals to be reviewed.
- . 120 Environmental Assessment documents to be reviewed.
- . Review and coordination of approximately 300 MOE Legislation Approvals.
- . 200 quasi Approval reviews.
- . A field EA monitoring program.

Air Quality Assessment

- . Short Status reports to be prepared on Air Quality in Hawkesbury prior to and immediately subsequent to closing of the CIP Pulp Mill.
- . Documentation of the emissions of NO and NO_x from the Nitrochem Plant at Maitland.

1983-84

Southeastern Region

Air Quality Assessment
(cont'd)

- . Refitting of a Mobile Monitoring Unit to conduct Ambient Air Surveys in some of the smaller Regional centres.
- . Continuation of the fiscal 1981/82 Monitoring Network.

Northwestern Region

Air Quality Assessment
Unit

- . Continue an air quality monitoring and phytotoxicology program in support of industrial abatement activities in the pulp and paper, mining and grain elevator industries.
- . Establish an air quality telemetry network in the Region to provide real time data to support Control Orders and investigate complaints.
- . Continue the pre-operational monitoring program near Ontario Hydro's thermal generating station at Atikokan.
- . Publish an annual Regional air quality report for 1982, plus other reports on special surveys.
- . Manage the A.P.I.O.S. terrestrial program conducted by Lakehead University and a provincial lichen and moss study carried out by another consultant. Continue to provide Regional support to the deposition monitoring program in the Region, particularly with respect to relocation of some of the sites.

1983-84

Northwestern Region

Water Resources
Assessment Unit

- . The water Resources Assessment Unit will continue to operate the 58-station surface water quality monitoring program.
- . The Unit anticipates the need to make surface water surveys in areas of proposed mining developments, as well as in areas of existing mining and pulp and paper making activities.
- . Investigations of water quality and the effects of recreational development on specific lakes will be made.
- . Site specific investigations of groundwater quality at industrial and municipal waste disposal sites are expected to continue in 1983-84.
- . Program of monitoring water usage and issuing of water taking permits will continue.
- . Through Lakehead University, the Region will manage an aquatic effects program as part of the Province's acid precipitation study.
- . The report on the Federal/Provincial study of mercury pollution in the Wabigoon/English River system will be completed and released.
- . Monitoring of water quality in Shoal Lake will be undertaken in close cooperation with the Federal government and the Province of Manitoba. This is being done in response to concern by the City of Winnipeg about the impact of mining and recreational development on the water quality of Shoal Lake, which is the source of the City's water supply.
- . Monitoring in the Hemlo area will be increased in anticipation of mining of newly discovered gold ore deposits.

1983-84

Northwestern Region

Approvals and Planning
Unit

- . Critically review and provide coordinated Regional comments on all subdivisions, official plans, official plan amendments and zoning bylaws.
- . Make a coordinated Regional review of the three most important Ministry of Natural Resources environmental assessments which will affect this Region, i.e.: forest management, lake planning and solid waste disposal class environmental assessments.
- . Develop a Regional environmental assessment handbook which will allow Regional staff to properly respond to enquiries and to effectively deal with the environmental assessment legislation.
- . Continue to monitor the Ministry of Natural Resources strategic land-use planning process.

Northeastern Region

- . Evaluations of 70 lakes will be made to measure the effects of cottaging activity and predict the impact of cottaging proposals. A major report on Lake Manitou trophic status will be issued.
- . Inspection of 700 wells will be completed.
- . A validation of the Kapuskasing River waste water assimilation model will be made under low-flow conditions to refine the acceptable mill load to preserve the oxygen regime.
- . The low-flow augmentation program on the Spanish River will be continued.
- . A biological survey of the Mattagami River will be conducted for a basis to measure improvements from new Control Order compliance.

1983-84

Northeastern Region

- . An evaluation of the Inco and Falconbridge impact of mining activity on the Onaping River will be initiated.
- . A status report will be prepared on the Serpent River to document improvements since 1975.
- . The cyanide destruction system for the Detour Lake mine will be evaluated.
- . It is planned to outfit a mobile monitoring unit with the necessary air monitoring, meteorological and associated support equipment. Estimated cost is \$30k.
- . It is planned to install a fully instrumented air quality monitoring station at the new Science North complex; this station will be used for public display purposes and also an active monitoring station which will be included in the new Provincial Air Quality index system.
- . Field data will be collected at a number of locations across the Region on levels of inhalable particulates.
- . A new fully instrumented air quality monitoring station will be established in the city of Sault Ste. Marie. Data collected will be telemetered to the Sudbury office on an "auto-call" basis.
- . It is planned to maintain and operate about 160 air quality monitors across the Region and to expand monitoring activities in Espanola, Smooth rock Falls and Timmins.

1983-84

Northeastern Region

- . Special air quality monitoring surveys will be undertaken:
 - . to assist ARB in conducting an intensive SO emission study dispersion study to determine the feasibility of instituting a supplementary SO emission reduction program at Falconbridge.
 - . to conduct a hi-vol nickel particulate study adjacent to the Inco Copper Cliff Nickel Refinery and the Inco tailings area.
 - . to conduct a pre-operational air monitoring survey at Cobalt, adjacent to Caral Minor Metals Ltd. before this plant is fully operational.
 - . to conduct an SO₂ mobile monitoring program, off-property, adjacent to the Kidd Creek Mines complex to determine the impact from the new copper smelter.
- . Collect and process vegetation and soil samples from established sites in the vicinity of pulp and paper mills in Espanola, Kapuskasing, Smooth Rock Falls and Iroquois Falls.
- . Evaluate and measure tree growth at Wawa at Timmins to continue to determine the effect of emissions from the Algoma Ore Division and Kid Creek Mines, respectively.

1983-84

Northeastern Region

- . Establish numerous sampling sites in the vicinity of the former Cobalt Refinery at Cobalt to determine the extent and degree of contamination associated with earlier operations, prior to a new smelter operation.
- . Collect and process vegetation and soil samples from established sampling sites in the vicinity of the Algoma Steel plant in Sault Ste. Marie.
- . Evaluate tree plots and collect soil and vegetation samples at established sites in Blind River in the final year prior to commissioning of new uranium refinery by Eldorado Nuclear Limited.
- . Collect snow samples along the rail line by the Kidd Creek Mines complex at Timmins to determine the extent of blowing concentrate from rail cars.
- . Conduct an intensive study of "Birch Decline" in Wawa area to determine causal agent(s) and extent of problem. Establish vegetation plots on edge of "Fume Kill area" NE of Algoma Ore Division sinter plant at Wawa as a means of determining the variability of the extent of this area, in preparation for a feasibility study for its reclamation.
- . Evaluate in excess of 20 white pine tree plots across the Region to assess the effects of ozone on tree conditions.
- . Evaluate about 2,500 seedling trees at plot locations in the Region in relation to the effect of long range transport of oxidants on tree growth.
- . Continue contracts under the APIOS program to have soil and vegetation baseline and biogeochemical studies completed in the Region.

UTILITY PLANNING AND OPERATIONS PROGRAM

VOTE 2104

VOTE 2104

UTILITY PLANNING AND OPERATIONS PROGRAM

This program provides for the development and management of sewage treatment plants, water treatment plants and liquid industrial waste treatment and disposal facilities. Grants are also provided towards the repair and renewal of private sewage systems.

	<u>BUDGETS (\$000's)</u>			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
Utility Planning and Operations Program	269,728.9	259,108.6	223,734.0	114 (627)*	119 (635)*	119 (655)*

* Plant Operators.

VOTE 2104

Item 01:

CAPITAL FINANCING AND REVENUE ACTIVITY

A. ACTIVITY ROLE AND OBJECTIVES:

ROLE:

To provide financial management for the investment in water and sewage facilities and capital grant program of the Ministry.

OBJECTIVES:

1. To manage the capital investment in water and sewage facilities.
2. To establish and maintain accounting, statistical, billing, collecting and reporting services.
3. To process payments for capital disbursements, plant operations, grants and loans.
4. To provide specialized financial services including grant calculations and processing grant claims.

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

CAPITAL FINANCE AND REVENUE BRANCH

<u>SECTIONS</u>	<u>BUDGETS</u>			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
1.0 Director's Office	84.0	85.0	90.0	2	2	2
2.0 Project Accounting	308.9	357.7	426.7	9	9	11
3.0 Project Financial Management	220.0	264.5	501.5	6	6	9
4.0 Capital & Grants* Payments	215.0	260.5	329.1	5	11	12
5.0 Grant Co-ordination*	345.6	321.3	134.7	12	12	6
TOTALS	<u>1,173.5</u>	<u>1,289.0</u>	<u>1,482.0</u>	<u>34</u>	<u>40</u>	<u>40</u>

* Units transferred from Environmental Approvals & Project Engineering Branch and Accounts Branch in 1982-83.

C. MAJOR ACCOMPLISHMENTS:

	<u>1981-82</u>	<u>1982-83</u>
1.0 <u>Director's Office</u>	. Not applicable	. Integration of functions into Branch following reorganization.
2.0 <u>Project Accounting</u>		
a. <u>Joint Project Administration</u>		
. Number of projects for which Annual Charges are calculated	500	495
. Budgetary Revenue from Charges (\$ Millions)	7.90	6.00
. Number of Project Terminations	10	13
. Number of New Special Operating Agreements (M.O.E. operation of Municipally owned projects)	8	3
. Number of Provincial Projects transferred to Joint Projects	3	5

	<u>1981-82</u>	<u>1982-83</u>
3.0 <u>Project Financial Management</u>		
a. <u>Rate Reviews</u>		
. Total Provincial Projects with Services Rates	<u>305</u>	<u>300</u>
. Rate Reviews Provided		
- Mandatory	<u>96</u>	<u>114</u>
- Control	<u>10</u>	<u>10</u>
	<u>106</u>	<u>124</u>
b. <u>Revenue</u>		
. Annual Budgetary Revenue	67.74	60.0
4.0 <u>Capital and Grant Payments</u>		
a. <u>Documents Processed</u>		
. Engineering Certificates	2,235	1,900
. Other Capital Payments	3,563	2,100
. Capital Grants	1,492	1,700
. Plant Operations	-	18,000*

*Number represents output from August 1, 1982, date on which the Accounts Payable Unit was transferred to Capital Financing & Revenue Branch.

	<u>1981-82</u>	<u>1982-83</u>
b. <u>Expenditures (\$ Millions)</u>		
. Disbursements	99.50	75.50
. Grants	80.17	80.00
. Plant Operations	49.09	61.00

5.0 Grant Co-ordination

a. <u>Expenditures (\$ Millions)</u>		
. Direct Grants	52.24	64.00
. Grants for Private Systems	4.41	6.00
. Grants under the Federal Provincial Agreement	20.45	35.00

1983-84

D. EXPECTED ACHIEVEMENTS:

1.0 Director's Office

- . Directing computerization of program accounting operations.

2.0 Project Accounting

a. Joint Project Administration

- . Number of projects for which Annual Charges are calculated 512
- . Budgetary Revenue from Charges (\$ Millions) 7.00
- . Number of Project Terminations 18
- . Number of New Special Operating Agreements (MOE operation of Municipally owned projects) 5
- . Number of Provincial Projects transferred to Joint Projects 30

b. General Cash Management

Revenue (\$ Millions)

- . Government/ Canada 11.60
- . Utility Service Charges
 - Term Agreements 7.00
 - Service Agreements 62.00
- . Nuclear Power Station 25.00
- . Resources Recovery 2.30
- . Other .04

107.94

	<u>1983-84</u>
<u>Receipts & Credits Management (\$ Millions)</u>	
. Term Agreements	6.00
. Service Agreements	43.00
. Other	.05
	<u>49.05</u>
 3.0 <u>Project Financial Management</u>	
a. <u>Rate Reviews</u>	
. Total Provincial Projects with Service Rates	<u>295</u>
. Rate Reviews Provided	
- Mandatory	105
- Control	<u>10</u>
	<u>115</u>
b. <u>Revenue</u>	
. Annual Budgetary Revenue from Service Rates (\$ Millions)	62.00

	<u>1983-84</u>
4.0 <u>Capital and Grant Payments</u>	
a. <u>Documents Processed</u>	
. Engineering Payment Certificates	2,000
. Other Capital Payments	3,000
. Capital Grants	2,500
. Plant Operations	33,000
b. <u>Expenditures (\$ Millions)</u>	
. Disbursements	69.00
. Grants	76.00
. Plant Operations	62.00
5.0 <u>Grant Co-ordination</u>	
a. <u>Expenditures (\$ Millions)</u>	
. Direct Grants	70.00
. Grants for Private Systems	6.00
. Grants under the Federal Provincial Agreement	20.00

VOTE 2104

Item 02:

PROJECT ENGINEERING ACTIVITY

A. ACTIVITY ROLE AND OBJECTIVES:

ROLE:

To encourage the development of a water supply and sewage treatment infrastructure through the provision of engineering and construction assistance to municipalities.

OBJECTIVES:

To review requests from municipalities for the support of water and sewage works and to provide project management and engineering services where necessary.

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

	<u>BUDGETS (\$000's)</u>			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
<u>ENVIRONMENTAL APPROVALS AND PROJECT ENGINEERING</u>						
<u>SECTIONS</u>						
1.1 Project Engineering)			145,869.0)			27
)	216,476.4*	191,293.0)	49*	49	
1.2 Special Activities)			2,429.3)			11
))			
1.3 Administration)			269.1)			11
)	<u>216,476.4</u>	<u>191,293.0</u>	<u>148,567.4</u>	<u>49</u>	<u>49</u>	<u>49</u>

* Units transferred to Capital Finance and Revenue Branch and Central Region in 1982-83.

C. MAJOR ACCOMPLISHMENTS:

	<u>1981-82</u>	<u>1982-83</u>
1.1 <u>PROJECT ENGINEERING</u>		
<u>Ministry Construction</u>		
Projects in Development Stage	3	3
Projects under Construction	<u>46</u>	<u>30</u>
TOTAL	49	33
Projects Completed	19	9
Projects in Maintenance Phase	31	23
<u>Project Management</u>		
Projects in Development Stage	15	15
Projects Under Construction	<u>23</u>	<u>23</u>
TOTAL	38	48
* <u>Upfront Grants</u>	332	333
<u>Private Systems Grants</u>	320	138

* Includes Projects under Project Management.

1981-82

1982-83

1.2 Special Activities

Design and
Equipment

- Undertook detailed external inspection of thirty one provincially built and twenty municipally built concrete water tanks and received related interim report by the consultant.

- June 1982 received approval of funding for the concrete water tank repair program.
- Three tanks were completely repaired and one partially repaired.
- Research program commenced to develop information required for guidelines and specifications for the repair and design of water tanks;
- Internal inspections of tanks were performed.
- An interim inspection report on twenty municipally built tanks was received from the consultant.

1.3 Administration

Claims and Contracts

Claims for payment by contractors, third parties etc. in relation to projects financed or managed by the Ministry were as follows:

<u>Claims</u>	<u>1981-82</u>	<u>1982-83</u>
Active Litigations	9	9
Referred to Arbitration	3	6
Major Claims handled Administratively	<u>10</u>	<u>6</u>
TOTAL	22	21
Litigation Concluded	1	1
Settled Out of Court	0	2
Arbitrations Concluded	0	3
Arbitrations Settled Prior to Hearing	0	4

1.3 Administration (cont'd)

. Administered the contract tenders and contract awards as follows:

<u>Ministry Construction</u>	<u>1981-82</u>	<u>1982-83</u>
Contracts Tendered	36 (\$59,694,991)	38 (\$46,018,392)
Contracts Awarded	37 (\$53,286,500)	44 (\$58,449,462)
 <u>Project Management</u>		
Contracts Awarded	6 (\$7,187,668)	15 (\$14,369,154)
Contracts Awarded	4 (\$5,219,577)	17 (\$16,112,145)
 Claims Under Mechanics' Lien Act		
Liens Received	90	52

D. EXPECTED ACHIEVEMENTS:

	<u>1983-84</u>
1.1 <u>Engineering</u>	
<u>Ministry Construction</u>	
Projects in Development Stage	2
Projects under Construction	<u>25</u>
TOTAL	27
Projects Completed	10
Projects in Maintenance Phase	9
<u>Project Management</u>	
Projects in Development Stage	15
Projects Under Construction	<u>39</u>
TOTAL	54
<u>*Upfront Grants</u>	416
<u>Private Systems Grants</u>	161

* Includes projects under Project Management.

1983-84

1.2 Special Activities

Design & Equipment

- . Complete the repair work of a tank partially repaired in 1982-83 and perform complete repair of seven other tanks.
- . Perform extensive internal inspection of two tanks.
- . Continue research for the development of repair and design guidelines.

1.3 Administration

Claims and Contracts

- . Anticipated claims and means of handling are as follows:

Litigation	7
Arbitration	4
Major Claims Handled	
Administratively	7
Insurance and Bonds	6
Mechanics' Liens	50

- . Approximately 50 new contracts to be tendered and awarded for Ministry construction.
- . Approximately 30 contracts to be tendered for Project Management Agreements.

VOTE 2104

Item 03:

UTILITY OPERATIONS ACTIVITY

This activity provides municipalities having agreements with the Ministry, with an acceptable quality and quantity of potable water, and disposition and treatment of their sewage and specified industrial wastes in an acceptable manner through the efficient management and operation of water and wastewater treatment facilities.

A. ACTIVITY OBJECTIVE:

To provide the people in the municipalities having agreements with the Ministry with an acceptable quality and quantity of potable water and to dispose of their sewage and specified industrial wastes in an acceptable manner.

B. ORGANIZATIONAL LOCATIONS AND RESOURCES:

	<u>BUDGETS</u>			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
<u>UTILITY OPERATION SECTIONS</u>						
<u>Central Region</u>						
Utility Management	160.5	134.0	148.0	4	3	3
Utility Operations	20,085.4	24,575.5	28,515.9	176	181	194
<u>West Central Region</u>						
Utility Management	218.0	255.0	278.0	6	6	6
Utility Operations	7,454.5	9,139.0	9,682.4	109	108	108
<u>Southwestern Region</u>						
Utility Management	275.0	315.5	345	7	7	7
Utility Operations	8,870.5	11,912.8	13,409	154	161	162

B. ORGANIZATIONAL LOCATIONS AND RESOURCES: (cont'd)

	<u>BUDGETS</u>			<u>STAFF</u>		
	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
<u>Southeastern Region</u>						
Utility Management	265.0	311.5	339.0	7	7	7
Utility Operations	6,058.0	7,090.9	7,370.0	101	99	100
<u>Northwestern Region</u>						
Utility Management	83.0	105.0	116.0	2	2	2
Utility Operations	1,767.5	2,045.5	2,375.9	25	23	28
<u>Northeastern Region</u>						
Utility Management	209.0	246.0	272.0	5	5	5
Utility Operations	<u>3,640.0</u>	<u>4,157.9</u>	<u>5,058.0</u>	<u>62</u>	<u>63</u>	<u>63</u>
				31	30	30
TOTALS	<u>49,087.4</u>	<u>60,288.6</u>	<u>67,909.4</u>	<u>627</u>	<u>635</u>	<u>655</u>
Statutory Appropriation	959.4	-	-	-	-	-

C. MAJOR ACCOMPLISHMENTS:

	<u>1981-82</u>	<u>1982-83</u>
<u>Central Region</u>		
<u>Sewage Water</u>	<ul style="list-style-type: none">. Operation of 15 Regional Sewage Treatment works.	<ul style="list-style-type: none">. Expansion program for Lakeview plant to meet effluent quality criteria begun.. Hastings Plant met effluent quality criteria.
<u>Water Supplies</u>	<ul style="list-style-type: none">. Operation of plant in accordance with Ministry objectives.	<ul style="list-style-type: none">. Planning underway for water tower repair at Brechin, Mara Township and in the Village of Woodville.. Repairs completed on concrete standpipe in Fenelon Falls.. New treatment plant was placed in service in Bobcaygeon.. Well drilling program initiated at Woodville.
<u>West-Central Region</u>	<ul style="list-style-type: none">. Operation of plant in accordance with Ministry objectives.	<ul style="list-style-type: none">. Plants well maintained and managed, responsiveness to emergencies.. Majority of failures to meet objectives are due to outside influences such as high strength industrial wastes.
<u>Southwestern Region</u>	<ul style="list-style-type: none">. Cleaning of Lake Huron to London pipeline.	<ul style="list-style-type: none">. Full scale disinfection project for ultra-violet disinfection at Tillsonburg.. Major reservoir expansion of the Union Water Plant.

1981-82

Southeastern Region

- . Judicious use of sewage treatment plant effluent chlorination has resulted in a \$60,000 saving.
- . More efficient use of project operations staff resulted in a \$15,000 savings to each of the two smaller projects.
- . Development of a sludge utilization program has resulted in a savings of \$1.4 million.

1982-83

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- . Development of a sludge utilization program has resulted in a savings of \$1.4 million.

1981-82

1982-83

Northwestern Region

- . A new 0.9 mgd water pollution control plant was put into operation at Atikokan. This project also included the construction of a major trunk sewer and nine pumping stations.
 - . A new 0.27 mgd water pollution control plant was put into operation at Balmertown.
 - . The construction of the Marathon Water Pollution Control Plant was completed and staffing arrangements were undertaken for operation commencing in June of 1982.
- . The new Marathon sewage project was put into operation early in the fiscal year.
 - . Close monitoring was provided to ensure that the plants were performing effectively and efficiently.
 - . Projects were under way in Geraldton, Atikokan, Red Lake, Fort Frances and Rainly River in an effort to reduce sewage flows due to infiltration, inflow and bleeding of water taps during the winter.

1981-82

Northeastern Region

- . The installation and start-up of a three-cell, 20-acre Air Aqua lagoon was completed in Hearst. This system is in addition to the original 60-acre polishing pond.
- . A 3.0 mgpd, secondary water pollution control plant and two associated pumping stations were started up at Kapuskasing. This project cost approximately \$8.0m. In addition, negotiations for lagoon construction and sludge disposal were successful, at very little cost to the project, thereby circumventing costs of \$300,000 for large sludge storage lagoons.
- . The installation of phosphorus removal equipment was completed at Kirkland Lake at a capital cost of \$10,000. Continued operational costs will be \$25,000 per annum.
- . The water treatment plant in Mattice, complete with intake, was started up at a capital cost of \$387,000.
- . A new well, reservoir and iron removal facilities were started up in Moonbeam, at a capital cost of approximately \$400,000.

1982-83

- . All packing glands in sewage pumping stations in the Northeastern Region were replaced with mechanical seals. This changeover was undertaken over a three-year period to conform to Ministry safety guidelines for confined space entry.
- . A large garage/workshop/storage shed was constructed by plant staff in Hornepayne at a cost of \$25,000.00.
- . The installation of a sludge thickener in the Kirkland Lake WPCP was completed. Construction was undertaken by plant staff at a cost of approximately \$8,000. Continued operating costs will be \$4,000/year for chemicals.
- . A 25% increase in pressure and pumping capacity was realized at the Espanola water treatment facility as a result of major watermain cleaning. A descaling additive has been incorporated into the system at a total cost of \$30,000.
- . Conversion from oil to natural gas for boiler operation at Espanola and Sault Ste. Marie water pollution control plants was accomplished in 1982, at no cost to the municipalities.

Northeastern Region
(cont'd)

1981-82

- . Expansion of the existing water pollution control plant by the construction of secondary treatment facilities to treat an average dry weather flow of 6,820 m³/d (maximum hydraulic capacity of 20460 m³/d) was started at Parry Sound.
- . Construction of a new submersible sewage pumping station equipped with two submersible pumps rated at 2,179 l/min. was completed in the Town of Powassan at a total cost of \$84,000.
- . Operation of the new Temagami low pressure sewer system was transferred from MOE to the Township of Temagami.

1982-83

- . A phosphorus removal study was undertaken at the water pollution control plant at Sault Ste. Marie. Plant scale tests confirmed that the phosphorus levels could be reduced to 1 mg/L in the effluent, to meet IJC requirements.
- . The construction of new watermains in White River was continued as part of an ongoing upgrading program.
- . The sludge utilization program in the Northeastern Region was completed in 1982 with a total of 10 (62.5%) of the 16 sludge producing plants utilizing stabilised sewage sludge on farm land. Two additional plants have a combination utilization and disposal program while the four other plants dispose of their sludge at approved sites.

D. EXPECTED ACHIEVEMENTS:

1983-84

Central Region

Sewage Water

- . Clarkson Plant to be upgraded through process change.
- . Lakeview Plant to be upgraded to meet effluent quality criteria.

Water Supplies

- . Studies will continue for relocating intake of the Lakeview Water Treatment Plant.

West-Central

- . Ensure that all sewage pumping stations have appropriate emergency alarm systems.
- . Develop a contingency plan to deal with blocked sewers in small projects during off hours, statutory holidays, etc.
- . Standardize the sewage treatment plant effluent sampling program.

Institute the following reorganizations:

- a. Merge the Galt and Preston sewage treatment plants under the management of the one superintendent and one senior operator.
- b. Merge the Paris, St. George, and Ayr sewage treatment plants under the management of one chief operator.
- c. Merge the Hagersville, Caledonia, and Cayuga sewage treatment plants under the management of one chief operator.

1983-84

West-Central
(cont'd)

- . The next effect of these three reorganizations is to reduce the utility compliment by two management personnel with a subsequent cost savings.
- . Resolve the alcohol problems associated with one chief operator and one area maintenance millwright.
- . Ensure that one staff member at all plants or plant systems, with the exception of Paris, has a Class I Exterminators License.
- . Complete a feasibility study on liming sludges at the Port Dover and Caledonia sewage treatment plants.
- . Complete major clarifier mechanism replacement programs at the Elmira and Port Dover projects.
- . Complete major C factor work and completely renovate the entire booster pumping system at the Nantocoke water treatment plant.
- . Replace and insulate the roof at the Port Dover sewage treatment plant under the Energy Management Program.

D. EXPECTED ACHIEVEMENTS: (cont'd)

1983-84

Southwestern Region

- . Computerization of working files within Region.
- . Expand radio system to cover the entire Region.

Southeastern Region

- . Efficiencies in sewage treatment plant effluent chlorination.
- . Development of sludge utilization program to realize further savings.

Northwestern Region

- . Reduce excessive water consumptions through municipal bylaws to control bleeding at Schreiber, Red Lake, Fort Frances and Balmertown.
- . Ensure all plants have updated operating agreements with municipalities at Longlac, Geraldton, Pickle Lake, Nakina.

1983-84

Northwestern Region
(cont'd)

- . Increase in-plant laboratory capabilities.
- . Computerize scheduling of preventative maintenance programs.
- . Continue energy audit at projects and implement results of electrical audit conducted in early 1983.
- . Complete lift station alarm installations.
- . Continue in resolving water tower problems.
- . Continue infiltration studies and correct problems at Geraldton, Longlac, Atikokan, Emo, Red Lake and Balmertown.
- . Continue liaison with local councils in relation to operations and budgets.

Northeastern Region

- . Completion of the secondary sewage treatment plant expansion at Parry Sound is expected during 1983-84.
- . Construction is expected to begin on the Powassan sewage lagoon system. The proposed expansion involves a 2 cell lagoon system which will provide a doubling of the current capacity.
- . The watermain and sewer construction program in White river will be continued. The capital cost of this project is \$700,000. An investigation and possibly construction of an upgraded water supply source and storage facilities in White River will be considered. Cost in the order of \$1.5m are contemplated.

Northeastern Region
(cont'd)

1983-84

- . Improvements to the water intake at Hearst water treatment plant will be made at an estimated cost of \$250,000.
- . Construction is expected to begin on a \$1.7 million expansion at the Haileybury water pollution control plant.
- . An MBR has been completed for an expansion of the water treatment plant and extension of water and sewer lines in Moosonee. Design is expected to be completed during 1983-84.
- . Tenders have been called for an expansion of the North Bay water pollution control plant from the existing 8 MGD to 12 MGD. Ownership of the facilities is expected to be turned over to the City during 1983 and the operation of the plant to be transferred to the City upon completion of the planned expansion.

VOTE 2104

Item 04:

ONTARIO WASTE MANAGEMENT CORPORATION

ACTIVITY ROLE:

Management and development of waste treatment and disposal facilities to treat liquid industrial and hazardous waste.

Research and development on the management of waste.

Encouragement of the reduction of waste at source and the recovery of resources.

	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1981-82</u>	<u>1983-84</u>	<u>1984-85</u>
Ontario Waste Management Corporation	2,032.2	5,660.0	5,660.0	-	-	-
Land Purchase	<u>-</u>	<u>578.0</u>	<u>116.0</u>	<u>-</u>	<u>-</u>	<u>-</u>
TOTALS	<u>2,032.2</u>	<u>6,238.0</u>	<u>5,776.0</u>	<u>-</u>	<u>-</u>	<u>-</u>

More details on Boards, Committees and the Corporation may be found in the Appendix.



APPENDIX

APPENDIX

ENVIRONMENTAL APPEAL BOARD

Function: In accordance with the Environmental Protection Act, the Ontario Water Resources Act, and the Pesticides Act, the Environmental Appeal Board provides to persons affected by certain decisions of the Ministry of the Environment and local health authorities, a mechanism of appeal from those decisions.

Reports to: Minister

Legislative Authority: The Environmental Protection Act, RSO 1980, ch. 141, section 120.

1983/84
Estimated
Annual
Expenditure: \$45,000

Funding
Allocation: Services: \$45,000

Fee Structure: Chairman - \$160 per day)
Vice-Chairman - \$145 per day) O.C. 501/82
Members - \$125 per day)

Budgetary Appropriation: Program - Environmental Control
Activity - Program Administration
Organizational Location - Office of ADM - Regional Operations

Estimated Board Meetings and Hearings per Annum: 24

ENVIRONMENTAL ASSESSMENT BOARD

Function: To conduct public hearings on proposed sewage works, solid waste disposal sites, industrial waste disposal sites, hazardous waste disposal sites, proposed waste management systems and other environmental oriented matters at the request of the government.

Reports to: Minister

Legislative Authority: The Environmental Assessment Act, RSO 1980, ch. 140, section 18.
The Environmental Protection Act, RSO 1980, ch. 141, section 33.
The Ontario Water Resources Act, RSO 1980, ch. 361.

1983-84
Estimated Annual
Expenditure: \$1,200,000.

Funding Allocation:	Complement - 10	
	Salaries	504,000
	Temporary Help	1,000
	Employee Benefits	91,000
	Transportation & Communications	78,000
	Services	493,600
	Supplies & Equipment	<u>33,000</u>
		<u>1,200,000</u>

Fee
Structure: Vice-Chairman: \$200 per day)
Members \$175 per day) 618/81.

Budgetary
Appropriation: Program - Environmental Control.
Activity - Environmental Assessment Board.
Organizational
Location - Environmental Assessment Board.

Estimated
Board
Meetings and
Hearings
per Annum: 35

BOARD OF NEGOTIATION

Function: Final Authority within the Ministry for settling claims and has implicit influence in securing settlements of damage to vegetation and livestock caused by contaminants.

Reports to: Minister

Legislative Authority: The Environmental Protection Act, RSO 1980, ch. 141, section 134.

1983/84
Estimated
Annual
Expenditure: \$5,000

Funding
Allocation: Services: \$5,000

Fee Structure: Chairman - \$125 per day) O.C. 398/77
Members - \$ 85 per day) Feb. 9/77

Budgetary Appropriation: Program - Environmental Planning
Activity - Air Resources Branch
Organizational Location - Air Resources Branch
Office of the Director

Estimated Board Meetings and Hearings per Annum: 5

PESTICIDES ADVISORY COMMITTEE

Function: To review the content and operation of the Pesticides Act and its regulations.

To review all publications of the Ontario government respecting pesticides and the control of pests.

To review and recommend the classification for all new pesticide control products prior to sale and use in Ontario.

Reports to: Minister

Legislative Authority: The Pesticides Act, RSO 1980, ch. 376, section 10.

1983/84
Estimated
Annual
Expenditure: \$490,000

Funding
Allocation: Complement : 3

Salaries - Regular)	67,800
Temporary Help)	1,000
Employee Benefits :		12,000
Transportation & Communications :		20,000
Services - Regular)	
- Research)	387,000
Supplies & Equipment		<u>3,000</u>
		<u>\$ 490,800</u>

Fee Chairman - \$160 per day) O.Reg. 161/82
Structure: Vice-Chairman - \$145 per day) Mar. 18/82
 Members - \$125 per day) (No order-in-Council necessary)

Budgetary Program - Environmental Planning
Appropriation: Activity - Hazardous Contaminants
 Organizational
 Location - Hazardous Contaminants and Standards Branch

Estimated Board
Meetings and
Hearings per 23
Annum:

FARM POLLUTION ADVISORY COMMITTEE

Function: To advise the Ministry on animal waste disposal methods in specific instances as to whether they are in accordance with normal farming practices.

Reports to: Minister

Legislative Authority: The Environmental Protection Act, RSO 1980, ch. 141, section 3 (i)

1983/84
Estimated
Annual
Expenditure: \$20,000

Fee Structure: Chairman - \$135 per day)
Members - \$105 per day) O.C. 3089/80

Budgetary Appropriation: Program - Environmental Planning
Activity - Air Resources
Organizational Location - Air Resources Branch

Estimated Board Meetings and Hearings per Annum: 8

HEARING PANEL ON INDUSTRIAL WASTE MANAGEMENT

FUNCTION: To conduct public hearings into the safety and technical acceptability of a suitable site for the establishment of a waste treatment and disposal facility for liquid industrial and hazardous wastes.

Reports to: Minister

Legislative Authority: Ontario Waste Management Corporation Act, 1981 subsection 16(1).

1983/84
Estimated
Annual
Expenditure: \$128,500

Funding Allocation:	Salaries	\$ 27,400
	Employee Benefits	\$ 1,100
	Services \$100,000	<u>\$100,000</u>
		<u>\$128,500</u>

Fee Structure:	Chairman - \$325 per diem)	
	Hearing)	0-1-C 1111/81
	Officers - \$300 per diem)	April 16, 1981

Budgetary Appropriation:	<u>Program</u>	- Environmental Control
	<u>Activity</u>	- Hearing Panel on Industrial Waste Management
	<u>Organizational Location</u>	- Hearing Panel on Industrial Waste Management

ONTARIO WASTE MANAGEMENT CORPORATION

This activity provides for the management and development of a waste treatment and disposal facility to treat liquid industrial and hazardous wastes and to provide for the recovery of resources, the reduction of waste at its source, and research and development into the management of such waste. Provision is also made to complete land purchase.

FUNCTION: Management and development of waste treatment and disposal facilities to treat liquid industrial and hazardous waste.

Research and development on the management of waste.

Encouragement of the reduction of waste at source and the recovery of resources.

Reports to: Minister

Legislative Authority: The Ontario Waste Management Corporation Act,
July 1981.

1983/84
Estimated
Annual
Expenditure: \$5,660,000

Funding
Allocation: Transfer Payments: \$5,660,000

Fee
Structure: Chairman - \$225 per day)
Directors - \$200 per day)
Corporate) O.C. 1144/81
Secretary - \$ 50 per day)

Budgetary
Appropriation: Program - Utility Planning & Operations
Activity - Ontario Waste Management Corporation
Organizational
Location - Ontario Waste Management Corporation

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